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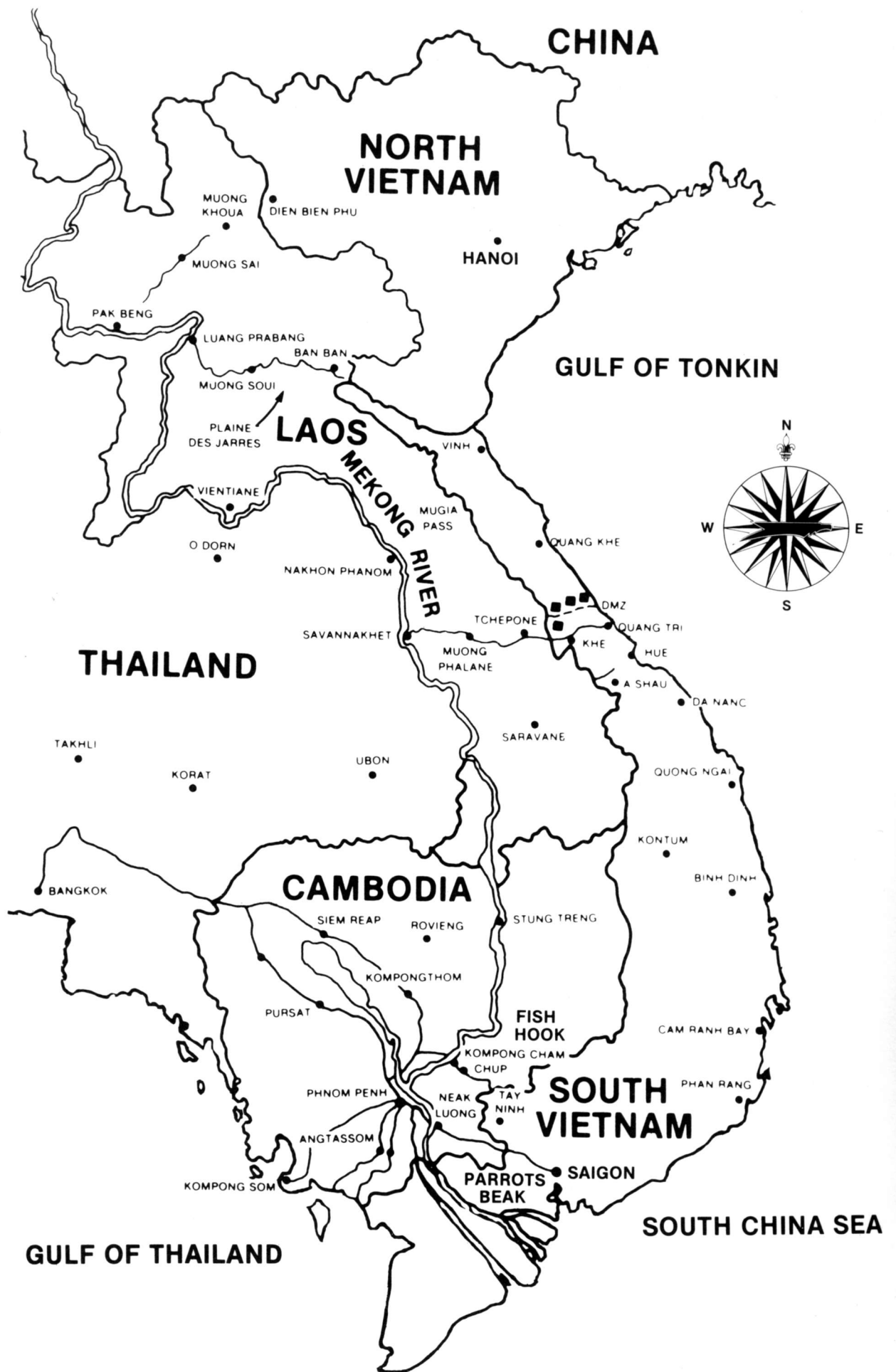
# AIRMOBILE

The Helicopter War in Vietnam

by Jim Mesko



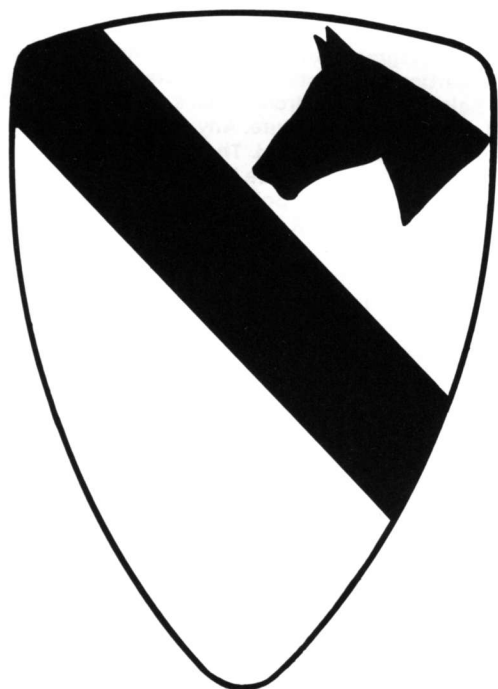
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# **AIRMOBILE**

**The Helicopter War in Vietnam**



**1 Cavalry  
Division  
(Airmobile)**



**101 Airborne  
Division  
(Airmobile)**

**by Jim Mesko**

**illustrated by Don Greer**



**squadron/signal publications inc.**



**Bell UH-1C, 15242, 174th Assault Helicopter Company (AHC), 'Sharks'  
Gun Platoon, II Corps, 1970**

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**DEDICATED TO THOSE LEFT BEHIND AS PRISONERS BY AN  
UNGRATEFUL COUNTRY.**



# Introduction

No weapon came to symbolize US military presence in Vietnam like the helicopter. Despite a multitude of other weapons systems — tanks, jet fighters, gunships, river craft, aircraft carriers — the helicopter caught the public's eye. Whether on TV or in news photos the helicopter always seemed to be there, landing troops, evacuating casualties, providing support to embattled grunts. And to a large degree this view of the helicopter in Vietnam was totally justified. For despite the contributions of other weapons, the war in South Vietnam was a 'helicopter war'. All the weapons systems used during the conflict played an important part in the fighting, but without the helicopter it would have been virtually impossible to wage the ground war in Vietnam. And despite the many varied facets of the conflict, the ground war in South Vietnam was what the whole issue revolved around.

Almost from the first, helicopters were an integral part of the US involvement in Vietnam. The deployment of two helicopter companies in mid-December of 1961 was the first major symbol of US combat strength in Vietnam. The arrival of the helicopter gunships signaled the first 'overt' use of American military power against the Viet Cong (VC). Later, the arrival of the 1st Cavalry Division (Airmobile) signified a major commitment of US strength and resolve. Toward the end when the American military presence wound down in favor of Vietnamization, helicopter units were among the last to be pulled out. Finally when the North Vietnamese Army (NVA) overran South Vietnam in the spring of 1975, the last Americans in Saigon were evacuated by helicopters. And, just as in the early days of the conflict when helicopter crewmen were among the first on the casualty list, the last two servicemen to die were helicopter crewmen who perished when their chopper crashed in the South China Sea.

In *AIRMOBILE I* I have tried to deal with the various aspects of the helicopter war in Vietnam. Though all branches of the US military used helicopters in the conflict, this account deals solely with Army employment of these machines. In some respects the US Marine Corps developed its own version of the airmobile concept, but their use of helicopters in Vietnam falls outside the spectrum of this account. This book deals with the history, organization, tactics, and weapons of the Army's helicopter force in Vietnam from its initial deployment in late 1961 until the final withdrawal of US forces in the fall of 1972. During these eleven years numerous changes occurred within the structure and mission of Army helicopter units. New machines brought about new tactics and innovative employment in a seemingly never ending battle against an elusive and vicious foe.

Even though South Vietnam eventually fell to the communists, the helicopter pilot and his crewmen bear little responsibility for this. Nor indeed can the blame be placed on the other American and allied servicemen who fought there. They gave their best, and in return for this sacrifice, many in their own country betrayed them. From the politicians in Washington to the draft dodgers in Canada, these brave men were let down. Anti-war sentiment whipped up by the liberal press gave aid and comfort to the enemy and eventually undermined all that had been done in Vietnam, so that in the final analysis a communist victory became almost inevitable. The famous French politician George Clemenceau once said that war is too important to be left to soldiers. In Vietnam our politicians followed that dictum with a vengeance. The results of this stupidity speaks for itself. Let us hope that in the future politicians and politically oriented general officers remember the lessons of Vietnam. For if there is any truth in Clemenceau's remark then perhaps there should be a corollary to it. If war is too important to be left to the generals then conversely peace is too important to be left to self serving politicians.

Jim Mesko  
Akron, Ohio 1984

# The Early Days

The concept of helicopters goes back centuries. During the 1400s Leonardo Da Vinci drew up plans for a flying machine that had the characteristics of a helicopter. In the early part of this century various attempts were made in Germany and the US to develop a machine that could take off and land vertically, however, low powered engines hampered such efforts. Prior to World War Two, an airplane-helicopter combination, the autogyro was developed with the characteristics of both machines. Though somewhat successful, the advent of World War II stymied further development and the autogyro gradually faded into the background. During the war, Germany, Britain and the United States all developed and experimented with helicopters. Eventually both Germany and the US employed primitive helicopters with their forces late in the war but these made no significant contribution to the war effort. However, these early machines sowed the seeds for future employment and development.

Following the end of World War II various nations experimented with helicopters in both armed and unarmed configurations. In the United States the Marine Corps realized early the potential of helicopters in amphibious warfare and began investigating how best to use these machines. Unfortunately, lack of funds and the limited range, power, and load capacity of the early helicopters prevented much meaningful testing. Despite these limitations some progress was made.

Then in June of 1950, North Korea invaded South Korea and plunged the United States into a war on this narrow Asian peninsula. In response to this invasion numerous American ground units were committed to the fighting, including the 1st Marine Brigade with a helicopter detachment. During the brigade's initial deployment these helicopters flew a variety of missions such as artillery spotting, reconnaissance, casualty evacuation, and liaison missions. With the incorporation of the brigade into its parent division for the Inchon invasion its helicopter strength increased. Throughout the remainder of 1950 these helicopters performed extraordinary duties in the seesaw battle up and down the peninsula. Then, in early 1951, the first transport helicopter squadron in history, HMR-161, was formed by the marines at El Toro air base in California. Equipped with the new Sikorsky H-19, this unit was sent to Korea in the late summer of 1951. The H-19, with a load capacity of ten men, under ideal conditions, was a major step forward in the evolution of the helicopter. Upon its arrival in Korea the unit immediately began carrying out a variety of missions, many of which it pioneered. Included in these were the first movement of troops to the front line by helicopter and the first landing of troops behind enemy lines in battalion strength. As the war progressed such operations became more commonplace but were restricted by the limited number of helicopters available and their load limits.

Though the Army lagged behind the Marine Corps in this field a few far-sighted Army officers realized the potential of the helicopter and pressed for its development. Again, lack of funds and the limitations of the early helicopters hampered this research. While the Korean war did provide the impetus needed to get helicopter research going, the Army was not as fortunate as the Marines in their employment. Plans were drawn up for a tremendous expansion of the Army's helicopter fleet but pilot training and helicopter procurement took time and years of neglect could not be erased overnight. Eventually the Army was able to organize a very effective medical evacuation system to rush wounded soldiers to frontline MASH units which saved hundreds of lives. Working with the Air Force it also developed an efficient rescue system for recovering downed pilots from behind enemy lines. Finally, it experimented with large scale troop and supply movements much like the Marines were carrying out. Thus, by the end of the Korean War a fairly large

body of information had been acquired in a number of areas which helped provide the basis of future studies on the effective employment of helicopters.

While all this was going on in Korea the helicopter was also being employed in battle by the French against the communist Viet Minh in Indochina, where a vicious guerrilla war was being waged across terrain which included high mountains, dense jungle, swampy deltas, and horrendous weather conditions. Unfortunately the French were hamstrung by limited finances and rarely had more than a handful of helicopters for operation at one time. These were used almost exclusively for medical evacuation. On a few occasions however, they were used to insert small commando units for special missions but this was the exception rather than the norm.

Surprisingly, the French realized the tremendous potential for the helicopter in the vast roadless jungles of Indochina. Throughout their war with the Viet Minh the French had been handicapped by their mechanized equipment's inability to match the guerrilla's foot mobility. With the expansion of their helicopter forces, the French felt they would have a new form of tactical maneuvering which would be secure and provide for greater mobility than the enemy's foot movement. Unfortunately, the stunning defeat of the French at Dien Bien Phu at the hands of the communists ended the war before such a helicopter expansion could take place and the validity of their premise could be tested.

However, almost as soon as the French began pulling out of Indochina they became embroiled in another war, this time in Algeria. Into this guerrilla war the French poured tremendous amounts of men and material. To improve the mobility and cut the reaction time of their troops the French carried out the planned expansion of their helicopter fleet which had been originally scheduled for Indochina. By the time the war in Algeria ended in 1962, the French had over six hundred helicopters operating in the transport, evacuation, reconnaissance, and fire support role. In particular the last role was a new one which had never before been officially tested in an operational status. While helicopters in Korea may have fired weapons from their cockpits and even though tests had been conducted with armed helicopters in the US and England, the French were probably the first to use them in actual field operations on a regular basis. During this period, particularly toward the end of the war in Algeria, American personnel from the Military Attache section of the US Embassy in Algiers closely monitored the French effort and unofficially took part in operations as observers. The information which they gained was forwarded to the Pentagon where it was evaluated and integrated with on going US Army experiments with helicopter tactics.

Despite a desire to create twelve helicopter battalions during the Korean War the Army never even came close to this optimistic goal by the end of the conflict. Once the war was over, however, more time and money could now be spent on this area. Based on the experience accumulated in Korea and on French reports from Indochina and Algeria, the Army experimented along two different lines. With newer machines such as the Vertol CH-21 Shawnee and Sikorsky CH-34 Choctaw and CH-37 Mohave the army was able to in-

**The French were the first to use helicopters in Vietnam during the First Indochina War. Unfortunately they had only small numbers which were used mainly for medical evacuation. However, had the war gone past 1954 the French Army had planned to enlarge this small helicopter force and use it for large scale troop movement to counter the mobility of the elusive Viet Minh. The communist victory at Dien Bien Phu cut these plans short. This photo shows a Sikorsky H-19 landing at the beleaguered French bastion to pick up wounded. Despite the red cross on the fuselage medical evacuation helicopters received a warm reception from communist troops when they tried to land during the siege. (US Navy)**





investigate more fully the possibility of troop and equipment movement by air. Paralleling this, the Army took the first steps in the development of helicopter armament, when, in June of 1956, Colonel Jay Vanderpool organized a provisional platoon of armed helicopters. For the next two years Vanderpool conducted numerous experiments with a variety of machines and weapons testing the theory of armed helicopters. By the end of this trial period the basic paper framework for armed helicopters up to brigade strength had been developed.

Through experiments and large scale field exercises the potential of the helicopter gradually came to be recognized. In January of 1960 the Army convened the Rogers Board to study various aspects of army aviation. One recommendation which came out of this board was that of investigating the possibility of the airmobile concept. As a result the Howze Board was set up during the spring of 1962 to study the Airmobile concept. Though called on short notice the board was given a free rein as to what it wanted to see or do in its probe. Through field tests, war games, research, overseas visits, and in-

terviews, the board formulated a report which was submitted in August of 1962 to the Secretary of Defense. The principal tactical innovations which the report recommended were the Air Assault Division and the Air Cavalry Brigade. In both cases the units involved lost most of their wheeled vehicles which were replaced by helicopters and light aircraft. Also, a great deal of their artillery and armor was replaced by armed helicopters and OV-1 Mohawk aircraft. Thus, what the board envisioned were units with only limited conventional equipment which did not restrict their overall mobility under most conditions. The emphasis was placed on air assets for troop transport, equipment movement, and supporting firepower. Throughout the remainder of 1962 the report was studied and evaluated. After this review, it was decided to organize, train, and test both units and the order for this action was issued during the first week in January of 1963. However, while all this had been going on the United States was becoming increasingly involved in the ongoing struggle in Vietnam. Events there would help to shape the future of these test units.

## The First Deployment

During 1961 a general survey of the situation throughout Vietnam was made by General Maxwell Taylor, President Kennedy's military advisor. One item which he emphasized in his report was the lack of mobility of the Army of the Republic of Vietnam (ARVN) troops. This was due primarily to the poor road network and geographical conditions which made movement by tracked and wheeled vehicles extremely difficult. In response to this report and Taylor's recommendations Kennedy decided to send additional advisors and some support units to help the embattled South Vietnamese.

Orders were sent to the 8th and 57th Transportation Companies (Light Helicopter) in the fall of 1961 to deploy to Vietnam. Both units, equipped with the Piasecki H-21 Shawnee, embarked on the USNS Card in early November and sailed for Southeast Asia. The H-21, developed in the late 1950s was a single engine, twin rotored machine with a modest payload capacity. Because of its distinctive shape, it earned the nickname 'Flying Banana' and, although a useful machine, it was terribly underpowered and relatively slow.

On December 11th, the USNS Card docked at the riverfront in downtown Saigon where the H-21s were unloaded. They were stripped of their protective cocoons, which had prevented corrosion from salt spray during the long voyage across the Pacific, and reassembled. The helicopters were then flown to Tan Son Nhut airport just north of Saigon where the two companies made preparations for their first operation. The arrival of these two units had a two-fold significance. It was the first major commitment of combat power by the US to Vietnam and the beginning of a new era in military history — airmobility.

Twelve days after they disembarked from the Card, the helicopter units carried out the first airmobile action of the Vietnam war — OPERATION CHOPPER. In the day long operation over a thousand ARVN paratroopers and their US advisors were airlifted into a suspected enemy base complex about ten miles west of Saigon. The Viet Cong were so surprised by this first large scale use of helicopters that they were able to offer only slight resistance before fleeing into the surrounding jungle. Aside from a quantity of supplies

the paratroopers also captured an underground transmitter which had been broadcasting anti-government propaganda. Although the operation had been successful, a number of problems had occurred during the mission. These included proper troop embarkment and disembarkment, air to ground communications, and overall coordination. These difficulties would eventually be worked out, and when all things are considered, this first airmobile action had gone surprisingly well.

Unfortunately, one problem which arose could not be alleviated by more planning or practice. With only two companies of H-21s, the area in which airmobile operations could be carried out was severely limited. With their limited range the 8th and 57th Companies could only be employed in the countryside around Tan Son Nhut. To counter this problem another H-21 company, the 93rd was shipped to Vietnam on board the Card in January 1962. Unlike the earlier delivery, these H-21s were not unloaded from the ship but were flown off the ship when it was still ten miles from Da Nang. And while weather conditions were atrocious the flight of the helicopters to the city came off without a hitch. But even with this additional company the airmobile assets were still spread thin. All three units experienced a serious shortage of spare parts which hampered operations. In an effort to alleviate the spares problem the 8th Aviation Company, equipped with U-1A Otter aircraft, was sent to Vietnam in January to provide a utility supply network for the H-21s. Shortly after this unit deployed, some Bell UH-1 helicopters arrived in Vietnam with the 57th Medical Detachment (Helicopter Ambulance). These machines were nicknamed 'Huey' because of the way their designation could be pronounced.

**The first major display of American combat power in Vietnam was in December of 1961 when two companies of Boeing Vertol H-21 helicopters were sent to provide the Vietnamese Army with the ability to counter the elusive Viet Cong guerrilla forces operating around Saigon. Here, two H-21s still in their highly visible markings, are being prepared for the flight to Tan Son Nhut airfield from the unloading dock at the port of Saigon. (US Army)**



These new units were the beginning of a greatly increased aid program aimed at improving the capability of the South Vietnamese to counter the growing strength of the guerilla forces. In an effort to provide better command and control of the three helicopter companies and the fixed wing Otters, the 45th Transportation Battalion was deployed from Fort Sill, Oklahoma in early 1962. And as if to underscore the need for this command battalion, two more H-21 companies, the 33rd and 81st, were sent to Vietnam shortly after the 45th deployed. They too came under its control and began operations along side the other units. By mid 1962 five companies of H-21s were 'in country' and distributed in each of the four military regions into which the country had been divided.

However, the Army was not the only service to deploy helicopters 'in country' for airmobile operations. In April 1962, the first Marine helicopter squadron HMM-362, equipped with Sikorski H-34's, established a base at the old Japanese and French airstrip at Soc Trang in the Mekong Delta. Within two months, however, the Marine Squadron swapped bases with the 93rd Company in Da Nang. This switch came about because of the H-34's greater capability of operating in the higher elevations of the northern portion of the country. The H-21s weren't able to function at the higher elevations in this mountainous region because they were so underpowered for their size. With this shift the 93rd was able to operate its H-21s under more favorable conditions and get better results from the machines. This move also concentrated the bulk of the Army helicopter units in the southern part of Vietnam.



Prior to the deployment of the H-21s the Vietnamese had only limited helicopter assets. Their first helicopters had been old Sikorski H-19s turned over to them by the French when they departed in 1958. These were worn out and of little use in troop movement. These two were based at Tan Son Nhut and used for local rescue work. (USAF)



In an effort to increase Vietnamese airlift capability eleven Sikorski H-34's were sent to Vietnam in late 1960 for use by the 1st Helicopter Squadron (Vietnamese). However, due to a lack of spare parts and poor maintenance very few of these were able to operate and were rarely employed in field operations. Here Vietnamese Rangers prepare to board an H-34 after a search for Viet Cong troops in the Mekong Delta. (US Army)

To supplement the initial deployment of H-21's three more companies of these helicopters were sent to Vietnam during the early part of 1962. This H-21 is being readied for a flight to Tan Son Nhut airport from the deck of the converted escort carrier Croatan. (US Army)







The H-21s, referred to as the 'flying banana' because of its shape, provided the Army of Vietnam (ARVN) with mobility it had never before enjoyed in the fight against the Viet Cong. Unfortunately, the H-21 was underpowered and easily damaged by ground fire. These faults were not evident at first but as the enemy learned about these drawbacks they soon lost their fear of the helicopters and devised effective countermeasures against them. This H-21 from the 8th Transportation Company (Light Helicopter) prepares to lift ARVN troops to block fleeing enemy forces south of Saigon. (US Army)

Another problem which cropped up with the H-21 was loading and unloading. The small ARVN troops found it difficult, with full packs and equipment, to climb aboard without help. When it came time to exit, the troops often sank into the mud if they jumped out of the doors because of their downward momentum and weight. Such conditions did not facilitate rapid unloading in a combat zone or on a 'hot' landing zone (LZ) and overly exposed both troops and helicopters unnecessarily to enemy fire. (US Army)



In addition to early deployment of Army H-21s to Vietnam a squadron of Marine Corps H-34 helicopters was sent during April of 1962 to operate out of the old Japanese base at Soc Trang in the Mekong Delta. However, because of the H-34's greater power plant the squadron traded places with the Army's 93rd Transportation Company at Da Nang where the H-34's proved better at operating in the higher elevations of the northern regions of the country. (USMC)





The 57th Medical Detachment (Helicopter Ambulance) was sent to Vietnam to aid in the removal of ARVN casualties. This unit was equipped with the Bell UH-1 Huey, a new helicopter just coming into service. These proved very useful in cutting down the number of battlefield deaths and helped raise the morale of ARVN troops who could now count on being quickly evacuated to a rear medical facility for treatment. (US Army)

Soon after Army H-21s arrived in Vietnam many of them were armed with a .30 caliber machine gun in the door to provide suppression fire against enemy ground fire. However, this solution to the problem of enemy ground fire proved relatively ineffective due to inadequate fire power, limited firing arc, and the poor maneuverability of the H-21. As this photo demonstrates the installation also made exiting or entering from the door extremely difficult. (US Army)



To provide support for both the helicopters and ARVN forces the Army also dispatched fixed-wing aircraft for reconnaissance and photographic coverage over enemy territory. This Grumman OV-1 Mohawk from the 23rd Special Warfare Aviation Detachment initially helped pinpoint enemy troops through a variety of radar and sensory devices. Later models of the aircraft were fitted to carry gun pods, rockets, and bombs for close ground support missions of Army aviation units. This caused a great deal of opposition from the Air Force which felt that the Army's chief role should be restricted to ferrying troops. Eventually armed Mohawks were removed from service and replaced with ones with a less warlike mission. (US Army)





# Armed Helicopter

During early helicopter operations the VC were unable to offer serious resistance to the H-21s. And while small arms fire was encountered, the enemy did not possess any sizeable quantities of anti-aircraft weapons. What ground fire the helicopters received did some damage, so field commanders decided to arm the H-21s in order to give them the ability to suppress fire encountered during landing operations. A .30 caliber machine gun was mounted in the forward door but had only a limited arc of fire. This made the gun relatively ineffective in the suppression role. In addition, the size of the H-21 and its mediocre maneuverability did not suit it to the fire suppression role.

In an effort to find a solution to this problem the Army looked at the possibilities of arming the new Huey with a variety of machine guns and rockets. During the spring and summer of 1962 various plans and tactics for arming and employing the Hueys were investigated. Following this, a test unit of UH-1As was organized and deployed to Thailand for maneuvers and then deployed to Vietnam in September of 1962.

This pioneer organization, designated the Utility Tactical Transport Helicopter Company (UTTCO), was composed of fifteen UH-1As armed with a weapons system fabricated on Okinawa. This first weapons system consisted of two .30 caliber machine guns and sixteen 2.75 inch rockets mounted on the Huey's landing skids. Upon arrival in Vietnam the unit was assigned to Tan Son Nhut where it supported the H-21s of the 33rd, 57th, and 93rd Helicopter Companies. This first element of UTTCO soon received reinforcements when eleven UH-1B model Hueys arrived in November. These differed from the A models in two important ways. The B model had a more powerful engine which allowed it to carry more armament, and it had a factory installed weapons pack of four M-60 machine guns and a different set of mounts for the sixteen 2.75 inch rockets.

Under the direct control of Military Assistance Command, Vietnam (MACV), this unit was to test the role of the helicopter as an 'escort' or 'gunship' for troop-carrying helicopters\*. The 'escort' role evolved into three distinct segments: the 'en-route phase', the 'approach phase', and the 'landing zone (LZ) phase'. During the en-route phase the helicopters flew at a relatively safe altitude with little danger from ground fire. During the approach phase the helicopters dropped down on the deck when they were several miles away from the LZ. These phases required little from the armed Hueys unless a ship went down due to mechanical failure or ground fire. Then one of the escorts would be detached to cover and provide support for the crew during rescue operations. However, it was during the LZ phase that the escort carried out its most important role. Throughout this part of the

*\*Eventually the term 'escort' was dropped in favor of 'gunship' or the nickname 'hog'.*

**The first armed helicopters sent to Vietnam were fifteen UH-1As fitted with a locally fabricated weapons pack made up of two .30 caliber machine guns and sixteen 2.75 inch rocket launchers. This armament was fitted to the Hueys in Okinawa, and after field tests in Thailand the unit was sent to Vietnam during the early fall of 1962. This is one of the original ships at the Thai Army Artillery Center just prior to it being shipped to Vietnam. (US Army via Drendel and Mutza)**

operation the escorts were constantly over the LZ providing support for the transport helicopters (slicks). Initially the armed Hueys would go into the landing area ahead of the slicks to find out if it was occupied by the enemy. If ground fire was encountered it was considered a 'hot' LZ and the escorts tried to suppress the enemy fire with their guns and rockets. Throughout the landing the armed Hueys remained over the LZ to cover the vulnerable slicks. Thus they were exposed for a long period of time to enemy fire, particularly if the landing area was small and could only take a few troop carriers at a time.

Despite this exposure to enemy ground fire only one escort was shot down between 16 October 1962 and 15 March 1963 during which the unit flew almost 1800 combat support hours. During this period eleven helicopters were hit by ground fire but in return the armed Hueys killed an estimated 250 VC. An indication of their effectiveness was seen in how unescorted



(Above) A UH-1A gunship from the provisional Utility Tactical Transport Helicopter Company (UTTCO) prepares to take off on an escort mission. The early 'A' model Hueys can be recognized by their short rotor mast and weights hanging from the blade cuffs. (Bell)



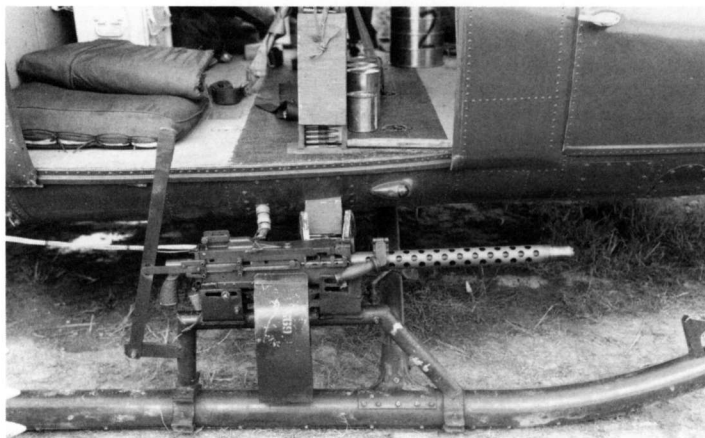
helicopters fared during the same period. The rate of hits for unescorted slicks more than doubled, while the hit rate for escorted slicks dropped by 25 per cent. An even better indication of their effectiveness was when Marine H-34 crews at Da Nang began to request Army escort helicopters. During the latter stages of the test a platoon of the armed Hueys had been moved up to I Corps to see how they operated in the mountainous terrain. Though skeptical at first, the Marines eventually were won over and became enthusiastic backers of the armed escort.

Despite the success of these armed Hueys, they were involved in a battle which resulted in a major Viet Cong victory and showed how vulnerable helicopters were to heavy ground fire. On 2 January 1963 ARVN troops carried out a major assault on the village of AP Bac located about thirty-five miles southwest of Saigon. Part of the plan called for helicopters to drop troops north and west of the village sealing off the enemy's escape. The 93rd Helicopter company furnished ten H-21s for the operation and were supported by five armed Hueys. Unfortunately, no air support was available and when the H-21s moved in to land their troops the VC opened up with mortar, and heavy machine gun fire. The fourth H-21 into the LZ was downed, and as another H-21 moved in to rescue the crew, it too was shot down. The escort Hueys tried to suppress the heavy ground fire but were unable to silence the enemy gunners who in turn knocked down two more H-21s and an armed Huey. Finally, Vietnamese and American fixed wing aircraft arrived on the scene, and after repeated attacks with bombs, rockets, napalm, and machine gun fire they were able to suppress the VC fire. However, by then it was too late, the communists had escaped through gaps in the ARVN lines.

In a post mortem analysis of the battle a number of factors were cited which contributed to the defeat. In particular the air force pointed out that armed helicopters were not an adequate substitute for fixed wing escort, especially against a determined, entrenched enemy. Air support might be done away with against lightly defended targets, but if the enemy was in strength armed helicopters alone would probably not be able to suppress heavy ground fire without substantial losses.

During this period an experiment was conducted to further increase the ability of helicopters to react to the fluid guerrilla war. Code named 'Eagle Flight', it entailed a group of gunships and transport helicopters held back on a standby basis or in the air searching for targets of opportunity. With usually seven transport Hueys, five gunships, and one medivac, plus embarked ARVN troops, this reserve formation was on call as the need arose. It allowed greater flexibility for executing an airmobile mission since little planning was needed which proved extremely valuable when time was of the essence. After the initial success of the experiment, it quickly gained favor, and by late 1964 every helicopter company had organized its own 'Eagle Flight'.

These early tests with the armed helicopters produced a good deal of information for future operations. It was found that five to seven armed Hueys could support twenty to twenty-five slicks. However, with the armament system, the escorts were unable to carry troops. In addition to the forward firing rockets and machine guns the gunships also had door gunners that provided side coverage and helped clear jammed weapons if necessary. With all



The starboard .30 caliber machine gun and mount. The long metal strip in the upright position on the rear of the machine gun is the cocking lever. (US Army)



A UH-1A makes a practice run at a firing range outside of Saigon. Notice how the crew chief is holding the cocking lever. These first gunships did not have side mounts for additional machine guns as did later versions of the Huey series. (Bell)

To supplement the original UH-1As of the UTTCO detachment eleven newer 'B' models, with a factory installed gun system, were sent to Vietnam in November of 1962. Here one of the first 'B' models is being readied for a test flight out of Tan Son Nhut airfield. (US Army)





this weight aboard, the UH-1B's speed dropped to approximately 80 knots and as a result could not catch up with a formation if they were delayed at lift-off or attacked a target along the way. The Army realized that the only way to solve this was to upgrade the basic UH-1 engine or develop a completely new gunship from scratch. The former was quickly done, but the latter took time and eventually was caught in a web of conflicting requirements which almost caused the demise of the entire project.

A lineup of the newer 'B' gunships at Tan Son Nhut in late November, 1962, alongside some of the older 'A' models in the background. The difference in the height of the rotor shaft is evident upon close examination. (US Army)

(Below) An armed UH-1A escorts a troop laden H-21 along a canal in the Mekong Delta. During the initial test period the UTTCO escorted H-21s fared much better than did their unescorted sister ships. However, this success led some army aviators to assume that the gunships could take the place of fixed-wing strike aircraft and provide all the suppression fire needed in a 'hot' LZ. (Bell)



(Below) The new gun system was made up of four M-60 machine guns and locally fabricated rocket launchers for 2.75 inch rockets. This XM-6 machine gun system proved far superior to the original .30 caliber gun mount in both firepower and reliability. (US Army)

A UH-1B prior to the battle of Ap Bac. Overconfidence and an underestimation of Viet Cong strength led the ARVN commander and his American counterpart to believe that they did not need to request covering support from fixed wing aircraft. (US Army)





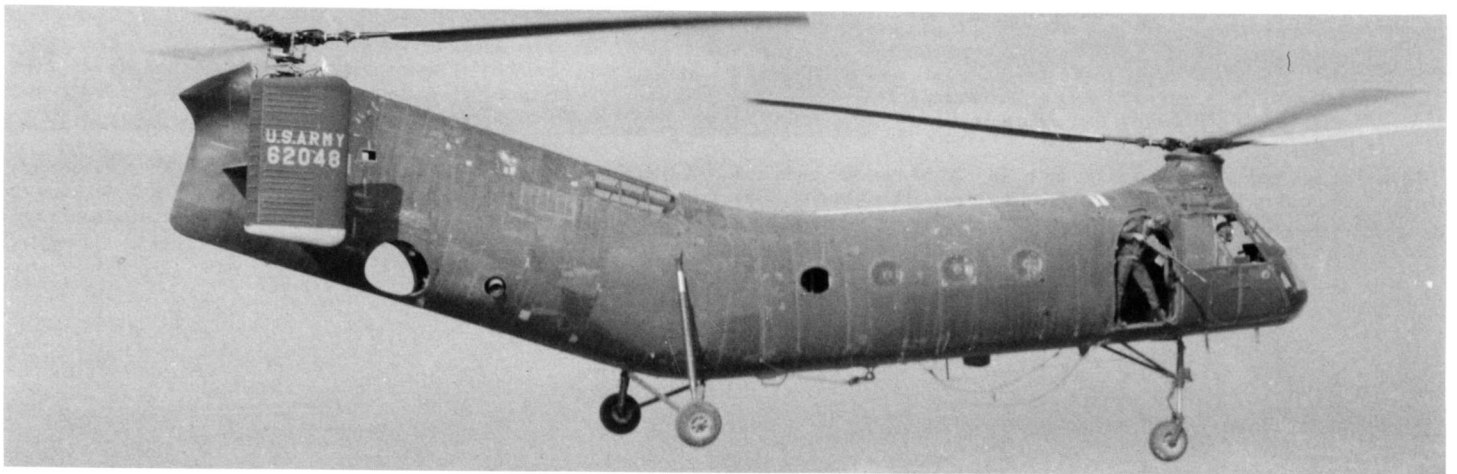


The results of not calling in Air Force support led to a major ARVN defeat when a strong enemy force stood their ground and inflicted heavy losses on the South Vietnamese troops and their US advisors. In addition to casualties on the ground five helicopters were shot down. This UH-1B gunship was brought down by gunfire after repeated runs on enemy positions. An ARVN M-114 surveys the wreckage. (Bell)

After the battle another gunship rights the crashed machine for salvage work. This particular machine was so badly damaged, that it was used only as a source of spare parts for other ships. Fortunately, the lessons of Ap Bac were taken to heart and rarely in the future would helicopters be committed to such a battle without adequate preparations for calling in air support if the need arose. (US Army)



(Below) During the initial approach to a LZ, troop carrying helicopters (slicks) flew at a high enough altitude to stay out of the range of enemy ground fire. This H-21 from the 57th Helicopter Company flies over enemy territory as the crew chief carefully scans the ground for any sign of Viet Cong activity. The restriction of the door mounted .30 caliber machine gun is evident. (US Army)



Usually between five and seven armed Hueys accompanied the troop carrying slicks. However, because of the weight of their weapons these Hueys could not stray from the formation and then catch up. If they were forced to

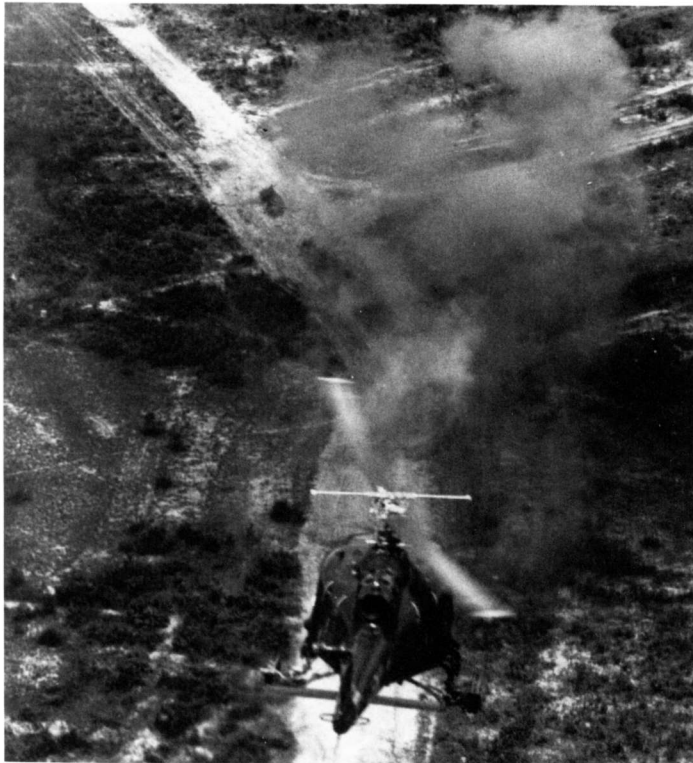
deviate for some reason they might be able to reach the LZ during the final phase of the landing if the unloading took long enough. (Bell)





(Above) Normally at least one medical evacuation helicopter accompanied each mission for casualty pickup although more might go along or be held in reserve in case the need for them arose during the course of the operation. Quick response time saved the lives of numerous wounded and influenced subsequent procedures when the United States became more heavily involved in the fighting. (US Army)

(Below) The actual unloading was when the slicks were the most vulnerable. During this time they had to come in at low altitude and slow speed which made them excellent targets. Once in the LZ they had to remain stationary while the troops disembarked. If the LZ was 'hot' follow-up landing elements might be forced to orbit the area while gunships or troops on the ground cleared out enemy positions. This H-21 has just unloaded ARVN troops and is quickly exiting the LZ. Note how the crew chief keeps a watchful eye open for any sign of possible enemy ground fire. (US Army)



(Above) During the final phase of the approach gunships would break off from the formation and make passes over the LZ to soften it up and draw out enemy fire before the slicks went in. This UH-1A makes a firing pass on Viet Cong positions during an operation northwest of Saigon. (Bell)



(Below) As the Viet Cong lost their initial fear of helicopters they began to carry heavier weapons to counter this new weapon which the US had introduced into Vietnam. As losses mounted to enemy ground fire helicopter companies began to over paint the highly visible markings which their H-21s had originally carried. Some units even camouflaged their ships in three or four tone finishes. This H-21 from the 93rd Company carries one such scheme which appears to be a variety of Olive Drab and Tan colors. (US Army)







However, even with the introduction of camouflage schemes H-21s, still carried high visibility markings atop their fuselage spines since these were hidden from the enemy and were extremely helpful during flight operations. 'Chicken Runner', from the 57th Company carries a large US star and bar insignia and a long White stripe atop its spine as it flies over the Mekong Delta. Tail markings are in Yellow while the name is in White. (US Army)



(Right) Medical evacuation helicopters still carried high visibility markings since it was felt this might help to deter the enemy from opening fire on them during their errands of mercy. It didn't. (US Army)

As can be seen, there was no standard pattern for how the H-21s were painted. 'Cherry Boy' carries a three color scheme of Black Green, faded Olive Drab, and Tan. These two H-21s are involved in a sweep near Ap Loi An. (US Army)







A problem which came up during the initial stages of helicopter use was the retrieval of downed machines. To help solve this problem the army dispatched a number of Sikorsky H-37 heavy lift helicopters in 1964. Though able to lift far heavier loads than either the H-21 or Huey, they were still underpowered for lifting really heavy loads. This downed H-21 is being stripped so that the approaching H-37 will be able to extract it from a rice paddy. (US Army)

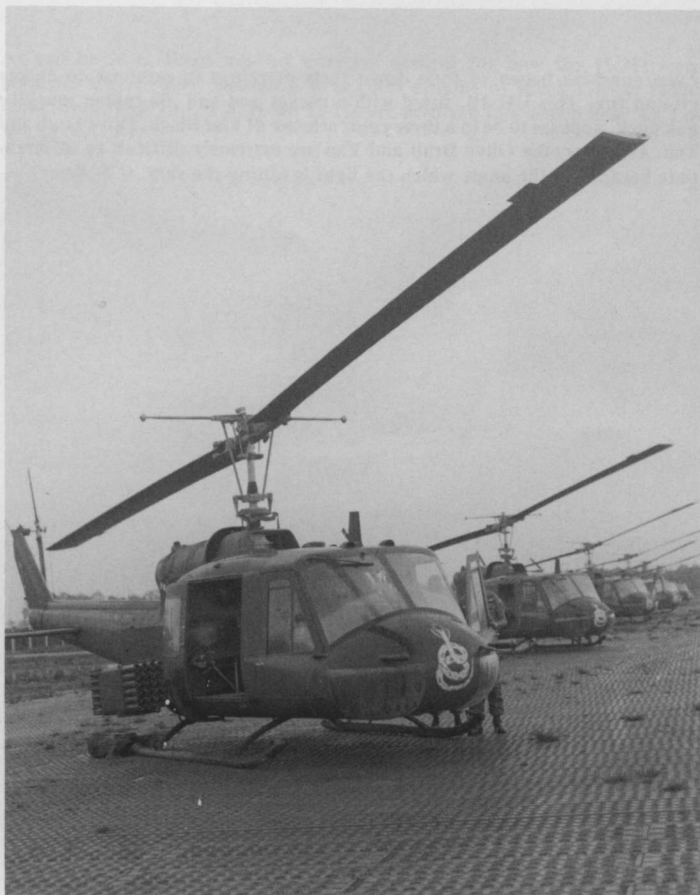


A UH-1B fitted with the M-6 gun system and locally produced rocket launches. The marking atop the cockpit is from the UTTCO test unit. Crossed cavalry sabers have been painted on the door. Some Air Force pilots referred to helicopter gunship pilots as being frustrated fighter pilots who were attempting to do the Air Force's job. The Army pilot's reply to this was not repeatable in polite company. (US Army)





(Above) Despite the interservice rivalry, Army and Air Force pilots often teamed up to search for the elusive Viet Cong. A UH-1B from the 118th Assault Helicopter Company (AHC) and an Air Commando A-1E work together as a hunter-killer team over the Mekong Delta in 1964. By this stage in the war some of the Hueys were starting to carry M-60 machine guns mounted in the doorways for additional suppression fire and beam protection during firing runs. (US Army)



(Above) This Huey from the 118th is ferrying in supplies to a Green Beret and Vietnamese unit along the Cambodian border near the Black Virgin Mountains northwest of Saigon. Because of the nature of their operations and the locations of their camps, often times the only way Green Berets could get supplies for their units was by helicopter. (US Army)

(Left) As the war progressed newer weapons installations were developed for Huey gunships. This UH-1B, from the 114th AHC, carries the XM-3 weapons system. This rocket unit originally arrived in Vietnam in May of 1963. (US Army)





## The 1st Cavalry Division (Airmobile)

Meanwhile, back in the United States, tests were underway to study the feasibility of a unit made up completely of helicopters as recommended by the Howze Board. The vast amount of information accumulated in Vietnam during the initial helicopter operations would help to shape the structure of the new unit and prove invaluable in transforming the airmobile concept into reality.

The name chosen for the test unit was the 11th Air Assault Division. This revived the colors of an airborne division which had served with distinction in World War Two. The 10th Air Transport Brigade was activated to fill out the other part of the recommendation. Initially both units were severely understrength in both men and material. And while the units had been given a good selection of personnel to fulfill their mission, both the men and their equipment were new and had to be broken in. In spite of this the testing period progressed fairly smoothly. A variety of tactics were tried and small scale exercises were carried out to test the airmobile concept. There was a constant exchange of people, information, and equipment between the units in Vietnam and the 11th Air Assault Division staff. In addition to this, the division had the added task of organizing and training six airmobile companies for duty in the Viet Nam war zone.

By the late summer of 1964 the division was ready for a major test of the airmobile concept. In the fall of that year, AIR ASSAULT II, a massive exercise in the Carolina's involving over 35,000 men thoroughly tested the concept. In spite of horrible weather conditions, the test came off satisfactorily even though numerous shortcomings surfaced. None of these shortcomings were judged insurmountable, and immediate steps were taken to remedy the deficiencies. Even though the results of the exercises were severely criticized by the Air Force which felt that the Army was encroaching into its domain by providing its own air transport and air support, the concept received favorable backing in high circles. However, the 11th Air Assault Division was only a test unit, and with the tests now completed the Pentagon had to decide whether or not to convert it to an actual unit within the Army's structure. An important factor in making this decision was the worsening situation in Vietnam.

Following the Viet Cong victory at Ap Bac in January of 1963, the military situation for the South Vietnamese had grown progressively worse. Despite

High visibility markings did not disappear entirely despite the threat from ground fire. This UH-1B from an unidentified unit sits in a flooded rice paddy as suspected Viet Cong are loaded into the cargo compartment. (US Army)

an influx of American men and material the communist position had improved tremendously. The Diem government had become so dictatorial that it was overthrown in November of 1963 by the military, however, this resulted in further instability as various factions within the military began resorting to a coup each time the current government did not suit them. Few of these governments lasted more than a few months, and this constant change in leadership severely hampered the war effort. In addition, corruption within the military, poor training, and incompetent leadership further hurt the fight against the VC.

By the spring of 1965 the situation was so bad that the United States decided to commit ground troops to bolster ARVN forces. One unit committed was the 173rd Airborne Brigade which arrived in May to provide security for the air bases at Bien Hoa and Vung Tau. Though not an airmobile unit, the brigade was teamed with a number of helicopter companies to carry out two air assaults during June and July in War Zone D, a formidable communist base area northeast of Saigon. Both operations, the first such helicopter assaults by an army unit in Vietnam, were moderately successful and showed the potential for large scale troop movement and support by helicopters under actual battlefield conditions.

These events in Vietnam swayed the Pentagon toward the activation of an airmobile division. Knowing full well that such a unit could be very effective in Vietnam the go ahead was given to form such a unit. On 1 July 1965 the 1st Cavalry Division (Airmobile) was officially activated. The major components of the unit were the resources of the 11th Air Assault Division (Test) and the 2nd Infantry Division. Despite the fact that the 11th suffered a serious loss of cadre because of reassignment and mustering out, the division was able to reorganize and retrain to combat efficiency within three months. While this was going on an advance party of the division landed in Vietnam in late August to prepare a site at An Khe for the arrival of the division. By September the unit was ready for the move. Through air and ship movement various elements of the division began to arrive in Vietnam. By the end of September, a week ahead of time the division was able to assume responsibility for its own security. Some ground units of the division had even seen combat during this period in support of units from the 101st Airborne Division. By October 3rd the 1st Cavalry was settled in at An Khe with all its units present. Its helipad, nicknamed the 'golf course', was destined to become the largest such field in the world.





As the United States became more committed to the defense of Vietnam additional men and material were sent to help ARVN forces. In the spring of 1965 the USS Iwo Jima (LPH-2) ferried troops, supplies, and helicopters to Vietnam and unloaded them off Cape St. Jacques near Vung Tau. Here UH-1Ds of the 1st, 82nd and 101st Aviation Battalions prepare to lift off the ship's flight deck. (US Army)

(Below) Among the new equipment sent with this increase in US troops was the Sikorsky CH-54 Skycrane heavy lift helicopter. Capable of lifting enormous loads this machine soon proved invaluable to American troops. Here it is shown with a detachable pod which could be used to house a communications facility, surgical room, or a supply container. (US Army)



## First Blood-The Ia Drang Valley

The arrival of the 1st Cavalry Division coincided with the start of a major operation by the North Vietnamese Army (NVA) which was designed to cut South Vietnam in half. The NVA plan called for an attack on the Pleime Special Forces Camp located in the central highlands of II Corps, about twenty-five miles south west of Pleiku. The communists hoped this attack would force the ARVN commander to commit his reserves in a relief attempt. If he did, the enemy would ambush and destroy the relief column which would seriously weaken the remaining defensive positions in the region. These would then be ripe for a follow up attack which the NVA felt would be successful and give them control of the area. Once the NVA controlled the area their units could then regroup and drive to the coast, effectively severing the country at its middle.

Fortunately the ARVN commander realized what was afoot. When the relief force was dispatched to the camp it was supported by elements of the 1st Cav which were airlifted in to support the column. When the NVA hit the column artillery fire from the division along with air support, helped the South Vietnamese repel the attacks. After three days of such action the relief force finally reached the camp and reinforced its defenders. Additional 1st Cav infantry and artillery units were airlifted to the vicinity of the camp to provide additional support. This was too much for the enemy. The 33rd NVA regiment was ordered to abandon the siege and withdraw toward Cambodia, along with the other two NVA regiments in the area, the 32nd and 66th. Since



A good illustration of the CH-54's enormous lifting ability is seen as it ferries a CH-47 Chinook troop carrier to a forward facility for assembly. Both of these newer helicopters were first deployed as part of the 1st Cavalry's initial buildup in 1965. (Sikorsky)



During the first real trial of the airmobile concept the 1st Cavalry Division undertook a major operation against the North Vietnamese in the Ia Drang Valley area near Pleiku. UH-1Ds of 'C' Company, 229th Aviation Battalion carry elements of the division into the battle. The misty cloud cover over the peaks in the background often hampered operations and delayed resupply or the movement of troops. Such conditions also taxed the flying ability of the pilots and made navigation a major problem. (US Army)

it was apparent that a major enemy force had been in the area before its disappearance, General Westmoreland, the US commander in Vietnam ordered elements of the 1st Cavalry to locate this force and bring it to battle. This task was given to the 1st Brigade of the division which began conducting search operations to the west of Pleime. Throughout the latter part of October no significant contact was made, but then on 1 November an air cavalry squadron spotted movement along the Tae River and troops were brought in by helicopter. After a brief fire fight the enemy troops faded into the surrounding jungle, abandoning a hospital complex. Realizing the importance of the complex, the US commander brought in more troops which proved a fortunate decision. Almost immediately after the reinforcements arrived the NVA launched a major assault on the position, but the cavalymen held their ground and beat back the attack. Other units were brought in to reinforce the defenders until finally the communists realized the futility of the situation and withdrew. Unfortunately for the NVA, captured documents revealed their battle plans and projected movements which provided the Americans with a major intelligence coup. Based on this material the 1st Cav moved units to intercept the retreating NVA columns. Throughout that first week in November bloody clashes occurred in the dense jungle as the 1st Brigade battled with the 33rd Regiment. By week's end the NVA unit had suffered nearly fourteen hundred casualties to thirty for the 1st Cav.

But this was only the beginning. During the second week of November the 3rd Brigade relieved the 1st and continued with the operation. The NVA, frustrated by their lack of success, began planning for a renewal of the Pleime siege. However, while preparing for this, an American battalion landed by helicopter close to major elements of the 66th and 33rd NVA regiments. As the cavalymen disembarked from their helicopters the enemy commander in the surrounding hills rubbed his hands in glee at the prospect of annihilating a full battalion of Americans. With nearly four thousand troops at his disposal this task appeared to be well within his capacity.

On the American side the US commander only hoped that this time the NVA would stand and fight, rather than retreat, as had constantly been the case prior to this. Had he known what lurked in the hills overlooking his position he might not have been quite so eager for battle. Like antagonists in a Greek tragedy both sides were being slowly drawn toward the other. The stage was set for the first large scale encounter between US and NVA troops. On the outcome of this battle rested not only the fate of the central highlands but also the validity of the airmobile concept.

On the morning of 14 November when the 1st Battalion, 7th Cavalry\* landed at LZ X-Ray nestled in the shadow of the Chu Pong Mountains. Although no opposition was initially encountered, the troops ran across an NVA straggler who told them about the proximity of enemy soldiers in the surrounding hills. Based on this information "B" Company was dispatched eastward to secure a defensive position just outside the LZ. However, it ran headlong into two NVA companies and a wild melee ensued. Outnumbered, the cavalymen pulled back except for one platoon which got cut off. As the fire fight waned, NVA gunners began pounding the LZ area with rockets and mortar fire as the remainder of the battalion came in. Only 'C' company

\*George Custer's old unit.

(Below) With the arrival of the CH-54 Skycrane, the older H-37 Mohaves were retired. This H-37 crashed while trying to recover a downed Huey north of Bien Hoa. It is from the 56th Transportation Company which was based at Tan Son Nhut. (US Army)



The expansion of the US war effort saw changes within the various units in Vietnam. This UH-1B from the 197th AHC carries the unit's Bunny insignia on the nose which indicates it is from the 1st Platoon. This unit was originally activated as the UTTCC until this was changed in August of 1964 to the 68th Assault Helicopter Company (AHC), then to the 197th AHC in March of 1965. Later the unit was redesignated the 334th AHC in September of 1966. (US Army via Drendel/Mutza)



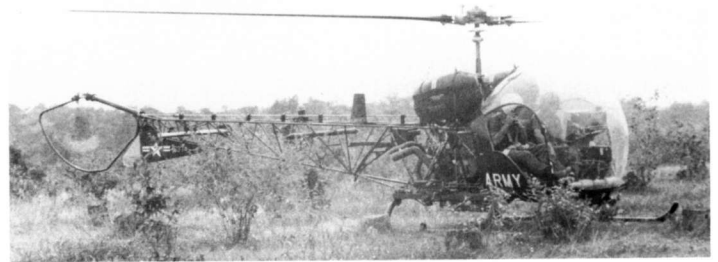


could fully off-load before the fire grew so intense that the helicopters were waved off. As a result only part of 'D' company made it into the LZ. Both units were immediately committed to the southwestern sector to counter any NVA attacks in this area. These quickly developed, and by mid-afternoon all the battalion's companies were engaged with the enemy. The US commander, realizing he had a tiger by the tail, radioed for reinforcements. An additional company, along with ammunition and supplies, was choppered in near dusk. Despite occasional intense ground fire these reinforcement efforts were carried out without serious difficulty and as each copter unloaded it took out as many wounded as it could carry. By nightfall the troops were dug in along a fairly stable perimeter and had registered in their supporting fire. All through the night the enemy made intermittent probes but launched no serious attacks. Then in the early morning hours, heavy fighting erupted. Casualties were so severe that another call for reinforcements went out but the ground fire was so intense that this proved impossible. By mid-morning enemy fire had slackened enough that relief helicopters could approach the LZ. With these reinforcements, and aided by other units brought into the general area by helicopter, the cavalymen consolidated their positions and began pushing out of the LZ. More fighting resulted from this move but by now the enemy had suffered too many casualties to hold back the Americans.

By November 16th the battle for the LZ was over and the 1st Battalion was air lifted out for a well deserved rest. In the three days of fighting the NVA suffered over 600 dead — seventy-nine Americans died. Thus, in their first substantial engagement with the NVA the green U S soldiers more than held their own. Moreover, the concept of airmobility had been tested and found valid. Had it not been for helicopters the cavalryman would not have been able to match the NVA foot mobility in the mountainous jungle terrain. With helicopters the cavalymen were able to place forces when and where they were needed. As the fighting escalated troops and supplies could be brought in to reinforce an embattled unit while at the same time evacuating wounded. As a result, even though the NVA might initially have a numerical advantage in a given area, the helicopter allowed the American commander to bring in additional troops quickly to aid an engaged unit while at the same time deploying other units to trap the communist troops. Even though enemy ground fire could on occasion hamper helicopter landings, rarely was it able to completely close an LZ for any appreciable length of time.

The battle at LZ X-Ray, though the most visible action during the Ia Drang campaign was but one of a number of actions during that November. When the month long campaign ended on 26 November over 1800 NVA soldiers lay dead. These losses effectively crippled three enemy regiments which were out of action for many months. US losses were not light with over 240 American killed in the bitter fighting. However, in the entire operation only four helicopters were shot down, and of these, three were recovered. Both sides learned lessons from the Ia Drang valley campaign. But one thing emerged from this which each of the combatants realized. The helicopters had played a vital role in the battle and brought victory to the Americans. In the future American forces would try to capitalize on this new found form of maneuverability, while the enemy, on the other hand, would try to find ways to mitigate the effects of this new form of warfare.

**1st Cavalry troops unload a pod at An Khe, following the Ia Drang Valley operation. The CH-54 could carry loads in excess of ten tons (20,000lbs). (US Army)**



**For observation work the Army initially employed a number of different light helicopters. This OH-13 Sioux prepares to take off on a search mission looking for Viet Cong and NVA troops near Ben Cat. Part of the 101st Airborne Division, the crew will call elements of the division if they spot any suspicious movement or receive ground fire. Though fragile in appearance the OH-13 proved to be a capable machine until replaced by the OH-6 Cayuse. (US Army)**



**In an attempt to counter the enemy's use of darkness as a shield for infiltration, a number of Hueys were equipped with lights for night surveillance work. This UH-1B is fitted with C-130 landing lights and was used to illuminate the perimeter at Tan Son Nhut in early 1966. Helicopters so fitted were sometimes nicknamed 'lightning bugs'. (US Army)**



# The War Expands

The concept of airmobility was proven beyond any doubt during the long and bloody November campaign in the Ia Drang Valley. More importantly, it marked the high point of communist gains which had started after the overthrow of Diem in late 1963. After this battle, US, ARVN, and allied forces slowly wrestled the initiative away from the NVA and VC. From this point onward the enemy became increasingly hard pressed to stop the general counter offensive which General Westmoreland directed against them.

As part of this counteroffensive the helicopter played a vital role in carrying the battle to the enemy. Following their victory in the Ia Drang, the 1st Cav carried out OPERATION MATADOR in January of 1966 throughout Pleiku and Kontum Provinces. This campaign was designed to root out the remaining NVA forces and either kill them or drive them across the border into Cambodia. While this was going on the 173rd Airborne Brigade carried out a combined helicopter-ground assault in the Mekong Delta, the first such action by an American unit in this area. Code named MARAUDER, this operation, in conjunction with Australian troops, decimated two Viet Cong battalions. Immediately upon the completion of MARAUDER the brigade moved by helicopter north of Saigon to launch OPERATION CRIMP against VC forces in the HoBo forest area, a long time enemy stronghold. After a week of intense fighting, the brigade's objectives were accomplished. This operation highlighted how effective helicopters could be in moving major units from one area to another. Without them it would have been impossible to move the 173rd from the delta region to Binh Duong Province in the short time between the two operations.

As these operations were taking place the 1st Cavalry Division also began a series of new attacks against the enemy. After clearing out Pleiku and Kontum Provinces the division moved its units eastward into Binh Dinh Province which ran along the coast. It made a series of major assaults which were grouped together under the title OPERATION MASHER-WHITE WING. In conjunction with the 22nd ARVN Division the cavalry units carried out a number of air assaults into the An Lao and Kim Son valleys, the Bjong Son plain, and the Cay Giep mountain range. By the time the operations were over, allied forces had killed nearly 900 NVA soldiers, while losing eighty-two of their own. In particular the new CH-47 Chinook heavy lift helicopter performed magnificently during these assaults. Aside from troop and supply movement, Chinooks proved instrumental in moving artillery into position at temporary fire bases from which support fire could be rendered to the far flung infantry units. The fire bases were constantly moved around to keep the roving infantry outfits under their protective wings. Because of its high payload the CH-47 could shift the artillery pieces around with great speed, allowing fire bases to be set up in as little as one hour. Often times they lifted artillery pieces atop high mountain peaks which were unaccessible by any other means. From these vantage points the artillerymen were able to pour a withering fire down onto the enemy below them.

Unfortunately such actions, while showing the potential of the helicopter, also highlighted a glaring shortage for the Army. Simply put, there just were not enough airmobility assets to go around. While ARVN forces had received most of the helicopter support up to the summer of 1965, after this time most of these helicopters were used to support US forces. ARVN forces became increasingly tied down to more or less static defensive duties and few South Vietnamese units actively participated in the major battles due to this loss of mobility. In addition to this the number of pilots the US Army had available was stretched to the limit, with many Army aviators serving repetitive tours in Vietnam until training caught up with the demand. Normal attrition quickly created a helicopter deficiency and put a strain on the major production lines of the various manufacturer, especially Bell, which provided the UH-1 Huey series. All these problems took time to iron out and it wasn't until the end of 1967 that they were basically solved.

At this time in Vietnam the various helicopter assets were broken down into four categories. The first type were those of the airmobile division. Initially the only such unit in Vietnam was the 1st Cavalry Division but in 1968 the 101st Airborne Division, already in-country, was converted to airmobile status. These units were fully equipped with their own helicopter assets under their own control and had greater flexibility in employing helicopters than any other division in the country. The second type was the organic aviation unit attached to a regular infantry division. Usually of battalion strength, this asset normally comprised two companies and an air cavalry troop. Like the airmobile asset, these were under the control of the parent division.

In addition to these divisional assets, there were also two types of non-divisional assets. The first of these was the non-divisional helicopter companies. Organized into battalions, these companies were under the direct control of MACV, and assigned where and when the need arose. They could be

placed under the temporary command of another unit for the duration of an operation. However, upon completion of the operation the helicopter company reverted back to MACV control. Often a certain helicopter company became associated with a specific division or brigade because it always supported the unit, but control never passed to the supported unit. The last category of helicopter assets in Vietnam were those attached to specific units such as signal, support, or engineer groups. These were under the control of these units and were usually employed in some type of non-combatant support work.

Such diversity in helicopter assets made it nearly impossible for any type of standardized training, operational methods, or procedures to evolve. To accomplish this some type of centralized overall command structure was needed. And while some commanders felt that an overall command structure would be overly restrictive, the Army felt it was the only way to effectively utilize the numerous helicopter units. The end result was the formation of the 1st Aviation Brigade on March 1st 1966. Initially it encompassed only the non-divisional helicopter companies but eventually it took over the special support units. As it turned out this move proved extremely helpful in providing a central command structure which could standardize training, procedure, and methods of operations. However, operational control and support were not really affected by this change over and the brigade combined the best features of both centralized and decentralized control.

**To support the expanding Army helicopter force in Vietnam the former Navy seaplane tender Albermarle was converted to a floating helicopter repair facility. Manned by a civilian maritime crew it carried nearly four hundred Army technicians who could perform almost any possible repair job on a helicopter. With this 'Army aircraft carrier' mobile support was provided to units up and down the coast. However, the ship, renamed the Corpus Christi Bay, operated primarily in support of the 1st Cavalry Division and was moored in the bay at Qui Nhon. (US Army)**



Initially the brigade staff wrestled with the problem of how to best use their assets. After a period of trial and error the staff decided to allocate their helicopter resources on the basis of one assault helicopter company per each US brigade. Later this was also extended to each Korean brigade. Unfortunately, this could not be done for each ARVN unit because of the limited helicopter assets. The brigade assigned one aviation battalion headquarters to each ARVN division to work with whatever helicopter units were assigned to that division. The number of units varied with each operation and normally no unit was assigned to any specific unit for any length of time. Through its centralized structure the brigade was able to effectively assign various helicopter assets under it in such a way as to cut down on redundancy and get the most effective use out of each asset.

Though such changes took time the war did not stop, the communists tried to regain their lost initiative. More American ground troops were sent in and additional helicopter units deployed with them. To help service this expanding helicopter fleet a reconditioned ex-Navy seaplane tender was acquired by the army and sent to Vietnam as a floating aircraft maintenance facility. Renamed the USNS 'Corpus Christi Bay', this unique ship arrived during the spring of 1966 off the coast Cam Ranh Bay. Eventually it relocated to Qui Nhon where it provided service primarily for the 1st Cavalry Division.

During this period of time US forces tried to counter the increased Viet Cong and NVA activity. In the spring a combined US, ARVN, and Korean force returned to the Ia Drang Valley in response to reports of increased enemy activity in the central Highlands. Throughout the remainder of the summer the communists continued to contest this area and only the ability to airlift troops and supplies by helicopter enabled the allied forces to keep control of the highlands area. In the latter part of August the 1st Cavalry and ARVN forces engaged the NVA in a running battle around Pleiku during OPERATION PAUL REVERE II. In this campaign the enemy suffered over 800 killed as the cavalry cleared most of Pleiku Province of regular NVA units. Again, helicopters were decisive in moving units to where they were most needed at critical times.

While the 1st Cavalry helped keep the Central Highlands under control during the summer the communists were on the attack elsewhere. During early fall the 9th NVA Division moved into Tay Ninh Province northwest of Saigon and overran four Green Beret strike force companies. General Westmoreland immediately began airlifting troops from the 1st, 4th, and 25th Infantry Divisions, the 173rd Airborne Brigade, and ARVN units to counter this assault. Code named ATTLEBORO, this operation initially ran into only light resistance. However, in mid-October, a huge base camp was uncovered and the action began to pick up. As elements of the NVA force were sighted helicopters moved troops in to block the enemy's retreat into Cambodia. Fierce fighting flared up until the communists managed to stagger back across the border to their sanctuary after losing 1100 men and huge amounts of weapons, ammunition, and supplies which had been captured or destroyed in the largest US operation to date in Vietnam. Because of these heavy casualties the NVA 9th Division was effectively crippled and needed nearly a year to rebuild its shattered formations.

As 1966 came to a close three other operations in which helicopters played a vitally important role took place. In all three campaigns elements of the 1st Cavalry took part, underlining the distinct advantage this unit's helicopter assets gave it. In OPERATION IRVING, which took place in the coastal province of Binh Dinh, the division again teamed up with ARVN and Korean units to sweep the area for local guerrilla forces. This sweep culminated in late October in the battle of Phu Huu where the Viet Cong lost heavily. Overall, local guerrillas lost nearly 700 dead during this search and destroy operation. Just as soon as this battle wound down, the division switched forces into OPERATION THAYER II which ran into February of 1967. In this action elements of the 1st Cav helicoptered into the Kim Son and Luoi Chi valleys and the provinces of the northern coastal plain to stop enemy forces from taking the late fall rice harvest from the farmers. Eventually the VC and NVA lost over 1,700 dead as the cavalymen secured the area and prevented a substantial loss of the rice which the enemy desperately needed to feed his hungry troops.

The final large scale helicopter action took place near the Cambodian border of Pleiku Province. In PAUL REVERE IV the newly arrived 4th Infantry Division, supported by elements of the 25th Infantry Division and 1st Cavalry were lifted into the mountainous, jungle covered terrain to search for regular NVA units and their base camps. The month and a half operation netted almost 1,000 enemy dead along with tons of weapons, ammunition, and supplies. Again helicopters proved indispensable in moving units to block escaping enemy formations in the trackless highland. By the end of 1966 the helicopter had shown its worth and even the most bitter foes of the airmobile concept realized that without the helicopter there was no possible way the United States could wage a war in Southeast Asia. Over the largely dense, jungle covered, trackless wastes of Vietnam the helicopter allowed the swift and safe movement of men and material to critical battle areas. The



Newer weapons were added to gunships to increase their firepower. This UH-1B from the 120th AHC, the 'Razorback' Platoon, carries an XM-5 40mm grenade launcher mounted in its nose, and a set of 2.75 inch rocket launchers on the sides. (US Army)

With the top of the turret off the feed system of the grenade launcher can be seen. The XM-5 used the same kind of ammunition as the M-79 grenade launcher issued to the ground troops. (US Army)



helicopter also allowed commanders to constantly shift their forces to block enemy escape routes and hit troop concentrations with superior forces once enemy formations were located.





## Airmobile Operations Peak

1967 started off with two operations that utilized helicopters to their fullest. On 8 January CEDAR FALLS, a combined air and ground assault by the 1st and 25th Infantry Divisions, the 173rd Airborne Brigade, the 11th Armored Cavalry Regiment, and ARVN units moved into the 'Iron Triangle' area, north of Saigon. This longtime communist stronghold was a major base from which the enemy launched attacks throughout III Corps. On the morning of the 8th, sixty Hueys carrying troops from the 1st Infantry Division swooped down on the Viet Cong village of Ben Suc, completely surprising the inhabitants. After killing forty guerrillas with only light casualties the troops secured the area. Other battalions were airlifted into the adjacent Thanh Din forest to serve as a blocking force for armored and ground columns converging on the zone. For two weeks troops moved into this enemy sanctuary as it was systematically searched for base and supplies. When the operation was terminated in late January over 700 enemy soldiers had been killed and nearly 500 had surrendered. In addition, tons of weapons, ammunition, documents and supplies were captured. Allied casualties were 84 killed in action. The key to sealing off the area had been the ability to put troops by helicopter into blocking positions where they could trap enemy forces fleeing in front of the allied ground elements. These tactics helped nail down the elusive guerrillas in their own back yard.

Within one month of CEDAR FALLS, twenty-two US and four ARVN battalions launched JUNCTION CITY, the largest operation to date. This assault was aimed at War Zone 'C', a notorious communist stronghold on the Cambodian border northwest of Saigon. Again this operation was planned as a combined air and ground attack, designed to seal off the area and trap large numbers of communist troops before they could retreat into their Cambodian sanctuaries. A unique feature of this campaign was the first and only parachute assault by US forces in the Vietnam War. This jump was carried out so as to free a sizeable number of helicopters to transport other troops into blocking positions. On 22 February the attack began when eight battalions were airlifted by helicopter to positions along the northern portion of the battle zone, in conjunction with the parachute drop. Initially, resistance was light but as the search area was compressed the enemy found fewer places to hide. Troops were shuttled into jungle clearings by helicopter to block enemy escape routes which in turn forced them to fight. When this occurred other units were brought in by helicopter to surround the guerrilla units. Fierce fighting erupted in the latter part of February and into March as more and more communist troops were run to ground. Working in close liaison with ground elements the helicopter-borne troops took a tremendous toll of the enemy. By the time JUNCTION CITY was terminated, in mid-May, the principle Viet Cong unit in the area, the 9th NVA Division, had lost nearly 3000 men and vast quantities of supplies. Almost 300 US soldiers were killed. The vaunted enemy sanctuary lay smoldering and useless. Again helicopters had provided the mobility necessary to trap an elusive enemy and bring him to battle.

As these actions were taking place the communists stepped up activities in the Central Highlands and I Corps. Near the DMZ the Marines began receiving increasing enemy pressure and needed to move up additional troops from southern I Corps. To fill this need the 1st Cavalry rushed a brigade into the

area within two days to relieve the Marines, a feat no conventional unit could have carried out by itself. The movement also marked the first move by an Army unit into I Corps which had been a total Marine show until then. While engaged in this move the 1st Cav was also called upon to move troops into the Kontum-Dak To area to counter moves by NVA troops across the border in Cambodia. This operation eventually escalated into a brigade size battle centered around the town of Dak To which resulted in the NVA losing hundreds of men before fleeing back across the border to Cambodia.

Along with these moves, the 1st Cavalry also conducted a series of operations called PERSHING and PERSHING II in Binh Dinh Province which lasted throughout 1967 and eventually resulted in 5500 enemy dead. This campaign basically cleared the province of the Viet Cong and allowed the South Vietnamese government to reestablish control in the area. While all these actions were taking place, fighting throughout the remainder of the country more or less leveled off and no major battles developed. Patrolling allied units kept up constant pressure on the enemy forces but the communists seemed to be content to lay low. Helicopters constantly shuttled men and material into jungle clearings in attempt to bring the VC an NVA to battle but the enemy began reverting back to ambush tactics to compensate for their earlier losses, and began rebuilding their strength. However, within a few short months they would come out of hiding to do battle with American forces in some of the fiercest fighting of the war.

Even with newer weapons enemy ground fire remained a problem and took its toll of US helicopters. The crew of this UH-1D survey the damage to their medivac helicopter after enemy fire brought it down during a rescue mission. Fortunately for the crew they were able to make a relatively controlled crash and escaped with minor injuries. (Bell)







## Team Tactics

Throughout the war tactics continued to be modified and refined. The structure of airmobile units made it possible for commanders to experiment with a variety of combinations of the different helicopters at their disposal. Eventually, these combinations or teams, were designated by a color which explained their function. Basically, these were divided into Red, White, Pink, and Blue teams. Except for the blue team all of the others were made up of two helicopters which were broken down in the following manner. A Red team consisted of a pair of gunships (Hueys, later Cobras) with a variety of ordnance on their wing racks. By its nature this team was strictly an offensive weapon and provided the means to bring a high concentration of fire power on the enemy. The White team, on the other hand, was strictly a reconnaissance unit. Normally it was used in areas where the enemy was not believed to be in great strength. One of these helicopters flew at tree top level to look over suspected ambush sites, trails, bunkers, and camp areas. The other flew at a much higher altitude to provide cover and serve as a communications relay. In case the low flying helicopter was lost the other ship served as a backup and also in the command and control capacity.

While the Red and White teams each had one primary function each was also limited in their employment. To allow for more flexibility a Pink team was formed, made up of one gunship and one observation helicopter. The observation ship flew low over the jungle searching for targets, or in the words of one pilot 'to troll for fire'. While this was going on the gunship flew overhead in a circular pattern to relay communications and provide suppression fire. In an area where the enemy was known to be in great strength, an additional gunship might be added to the team for support or as a command and control ship. If the team was within range of a fire support base it could call in artillery fire on a target or, attack with a Cobra if the target was outside artillery range. The flexibility of this team made it the most common tactical formation used by the air cavalry troop of a unit.

The final unit, the Blue team, was composed of a number of Huey 'slicks'

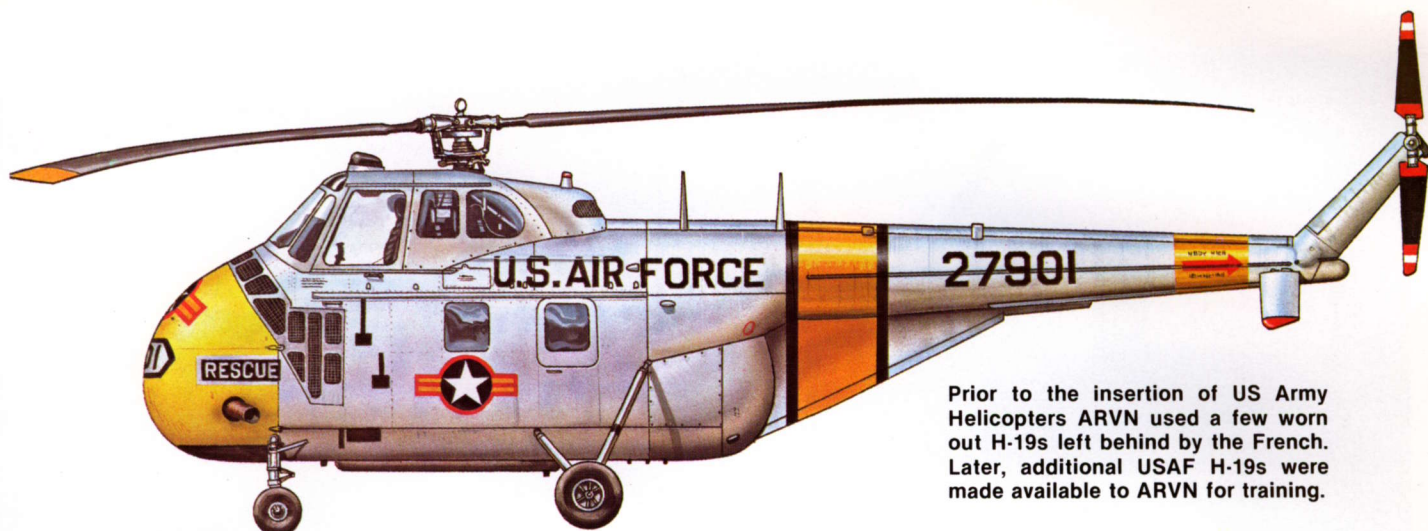
**In 1966 helicopter operations increased in tempo as US and allied forces tried to wrestle the initiative from the communist forces. Here elements from the 3rd Brigade, 25th Infantry Division land in a cleared LZ during OPERATION GARFIELD in the Central Highlands. (US Army)**

which carried either a rifle platoon or ground cavalry troop. The number of Hueys varied with the number of troops needed to be carried. Normally, this formation worked in conjunction with a Pink team. The Pink team providing it with both observation and support if the troops were committed to action. If the ground troops were employed, it was assigned a rifle company from an infantry battalion as a backup in case the platoon ran into more than it could handle. On numerous occasions when the rifle platoon stumbled onto a large concentration of enemy troops, more reinforcements than just the backup company were needed. In fact, some of the most significant battles of the war occurred when a rifle platoon made an initial contact, and called in reinforcements when they realized they had bitten off more than they could handle. In such a case numerous units could be airlifted into the area from other assignments. Eventually this became known as 'piling on'. The ability of a field commander to carry out such a movement of troops was due entirely to the helicopter. Without the helicopter, it would have been impossible to move units around to counter the elusive enemy. Even the guerrilla much vaunted foot mobility in the dense jungle could not hope to match the mobility employed by airmobile units.

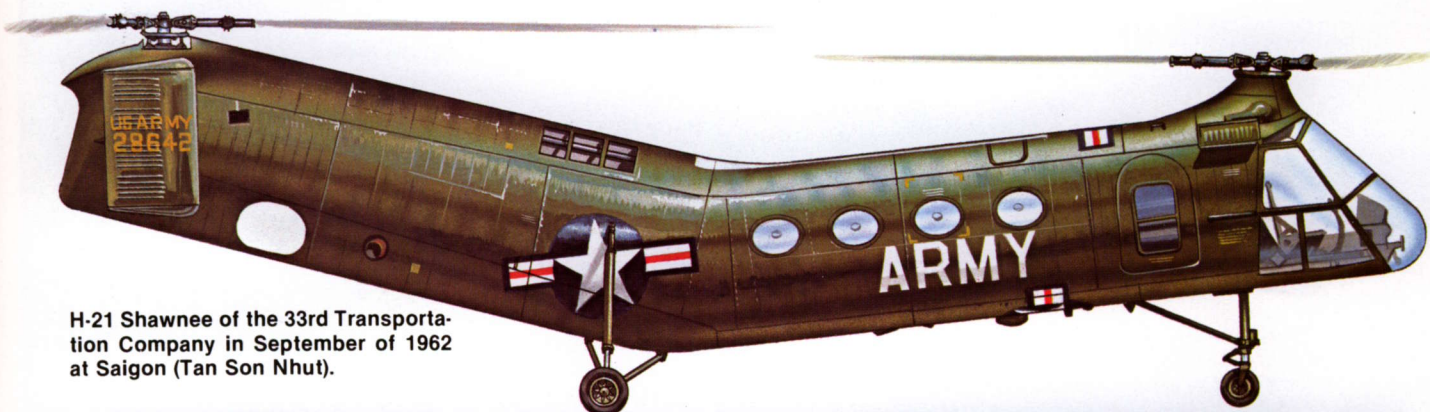
**UH-1Ds from the 25th Aviation Battalion, 'A' Company skim the surface of rice paddies on their way to a LZ during OPERATION FORT SMITH by the 25th Infantry Division. The insignia for 'A' Company, formerly the 175th Aviation Company, is a White bear which can be seen on the rear of the cargo door. (US Army)**







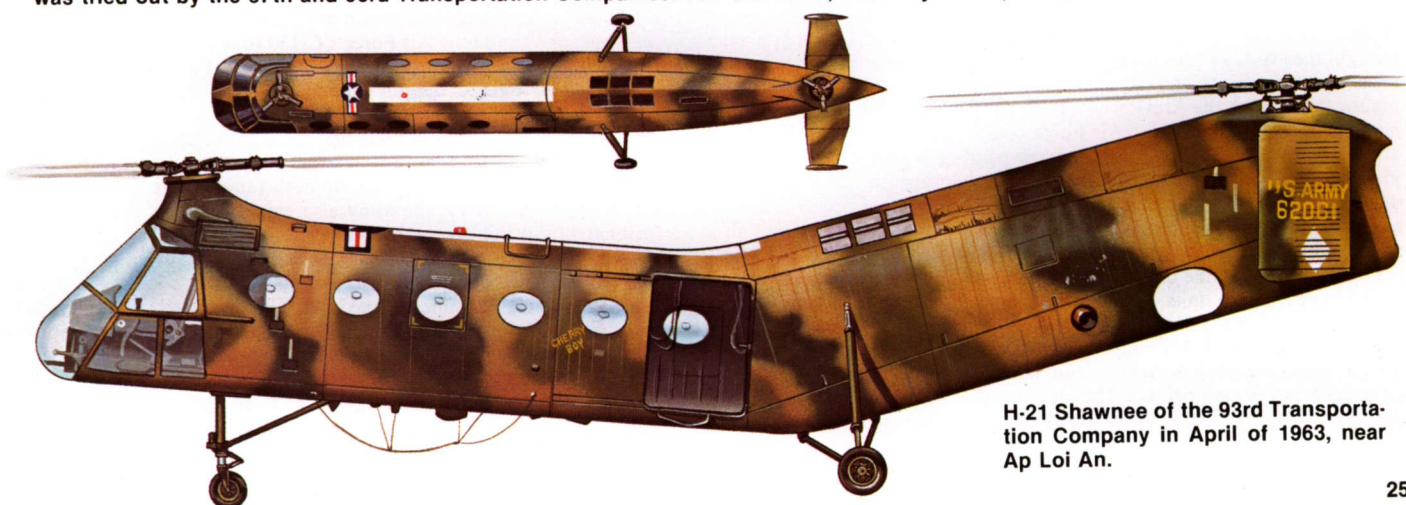
Prior to the insertion of US Army Helicopters ARVN used a few worn out H-19s left behind by the French. Later, additional USAF H-19s were made available to ARVN for training.



H-21 Shawnee of the 33rd Transportation Company in September of 1962 at Saigon (Tan Son Nhut).



The H-21s were the first major helicopters used in Vietnam by the United States. This one is in an early camouflage scheme that was tried out by the 57th and 93rd Transportation Companies. Tan Son Nhut, February 1964. (USAF)



H-21 Shawnee of the 93rd Transportation Company in April of 1963, near Ap Loi An.





## Fixed Wing Assets

Though Army aviation revolved basically around the helicopter, it also employed fixed wing aircraft to support Army formations, either as part of a unit, or for general utility duties. Primarily, these aircraft were used for reconnaissance and logistical duties. The main reconnaissance aircraft was the Grumman OV-1 Mohawk, a twin engine craft originally developed as a joint Army-Marine venture. Designed for use in forward battle areas, the OV-1 could take off and land on short, rough runways and provided combat units with almost instantaneous photo coverage. As more sophisticated sensors and radars were developed they were adapted for use on the Mohawk but such extra weight downgraded the plane's performance and took it out of the category of a low cost front line aircraft. However, one characteristic which brought the Mohawk into prominence was its ability to carry offensive armament under the wings. This caused a conflict with the Air Force which was not too happy with the Army even having fixed wing aircraft. It felt if the army needed such support, the Air Force could supply it. Unfortunately, the army felt the need for its own limited fixed wing support for two reasons. First, it thought the Air Force might not be able to furnish the necessary support because of other commitments. Secondly, with its own aircraft the Army would be able to respond almost instantaneously rather than go through a cumbersome chain of command.

Fuel was added to the fire when Army Mohawks began responding to calls for air support from units on the ground in preference to Air Force support, since the OV-1's were right overhead. Finally, the services came to a mutual understanding. The Army could keep the Mohawks but they could not be armed. When the 1st Cavalry Division deployed to Vietnam its twenty four armed OV-1s were left behind. Though this agreement supposedly solved the problem, Mohawks still occasionally went on missions with offensive loads

**This OV-1B Mohawk carries side-looking aerial radar (SLAR) in the long pod mounted under the fuselage. This gave the 1st Cav. its own ability to spot enemy troop concentrations rather than rely on the Air Force. Even though by this stage of the war the Mohawks were supposed to be unarmed, some of them still carried machine gun pods under the wings for defense and support missions. (US Army)**

but this was not generally encouraged by the Army command.

Another area of contention between the two services also erupted over a transportation aircraft, the de Havilland Caribou (CV-2 or C-7). This exceptional cargo plane had been procured by the Army to bridge the gap between their helicopters and the Air Force's C-130 four engine transports. Capable of lifting almost three tons of supplies or thirty-two passengers, this rugged craft was able to get in and out of small, unimproved airstrips. Again the Air Force felt the Army was usurping its job and argued against it. Eventually, after much in-fighting and politicking the Air Force won out and the Army was forced to give up the Caribou.

Though the Mohawk and Caribou both captured the limelight because of the inter-service rivalry, the army also employed other light aircraft which fortunately did not arouse the air forces ire. Old O-1F 'Bird Dogs' from Korean War fame were used for reconnaissance and eventually worked very closely with ARVN units. A variety of light aircraft such as the U-1 'Otter', U-6 'Beaver', U-8 'Seminole', and U-21 'Ute' were used for utility transport, passenger service, cargo hauling, liaison, and command control. Some worked to supplement or help the vast helicopter fleet while others worked in conjunction with various Army formations, particularly the 1st Cav. Though a small part of the overall effort, all three fixed wing aircraft played either a direct or indirect role in the development of the airmobile concept.



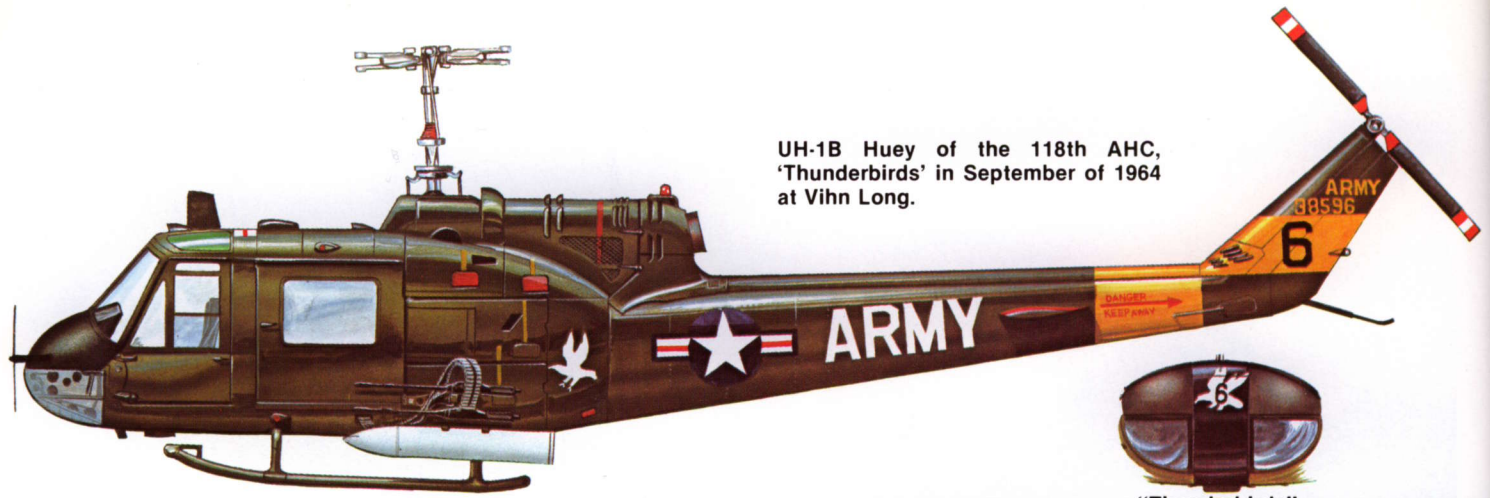


During operations medivac ships were in constant use ferrying out wounded and bringing in medical supplies. Despite being plainly marked the Viet Cong and NVA as often as not tried to shoot them down. This was done in spite of the fact that leaflets informed the enemy that the helicopters were also carrying enemy wounded. This medivac was downed near Ben Luc during operations by the 25th Infantry Division. From the damage it appears that the crew probably suffered severe injuries in the crash. (US Army)

To supplement the OH-13 in the observation role the army also used the OH-23 Raven for search missions. This ship prepares to lift off for a search near Cu Chi looking for reported Viet Cong forces. Note how a small raised pad of sandbags and PSP has been constructed to provide a level landing area safe from flooding. (US Army)







UH-1B Huey of the 118th AHC, 'Thunderbirds' in September of 1964 at Vihn Long.

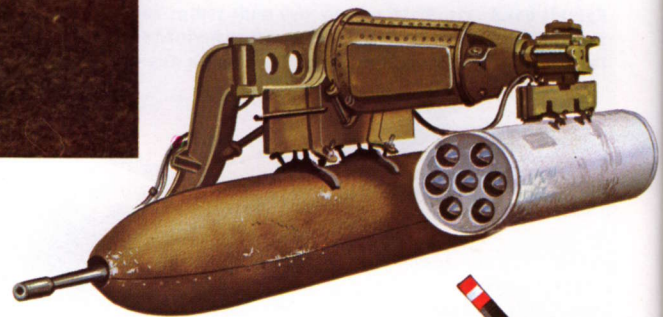
"Thunderbirds"

This UH-1B Huey was one of the first to arrive in Vietnam during October of 1962. It is fitted with an XM-6 weapons system. (Chenoweth)

A lineup of UTTCO UH-1Bs sit atop a dirt embankment near Saigon. The early helicopters carried high visibility markings until it was realized that they made good aiming points for enemy gunners. (Chenoweth)

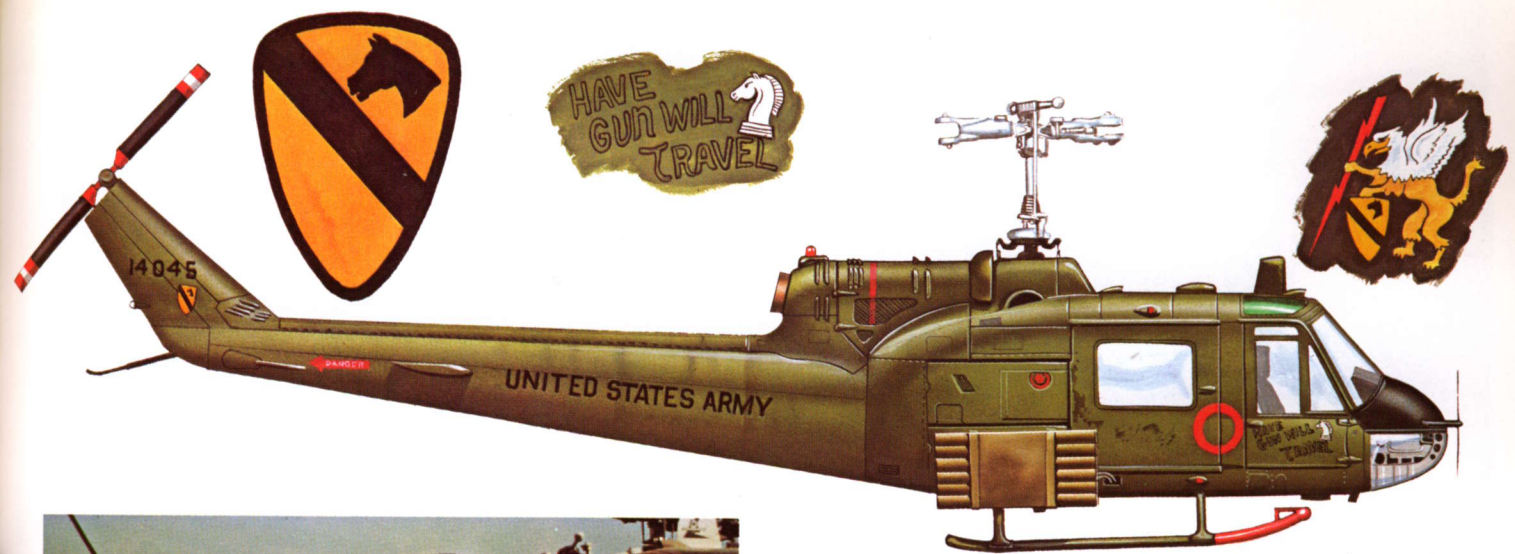


XM-31 Weapons System



UH-1B Huey of the Utility Tactical Transport Helicopter Company (UTTCO) during 1964 at Tan Son Nhut.



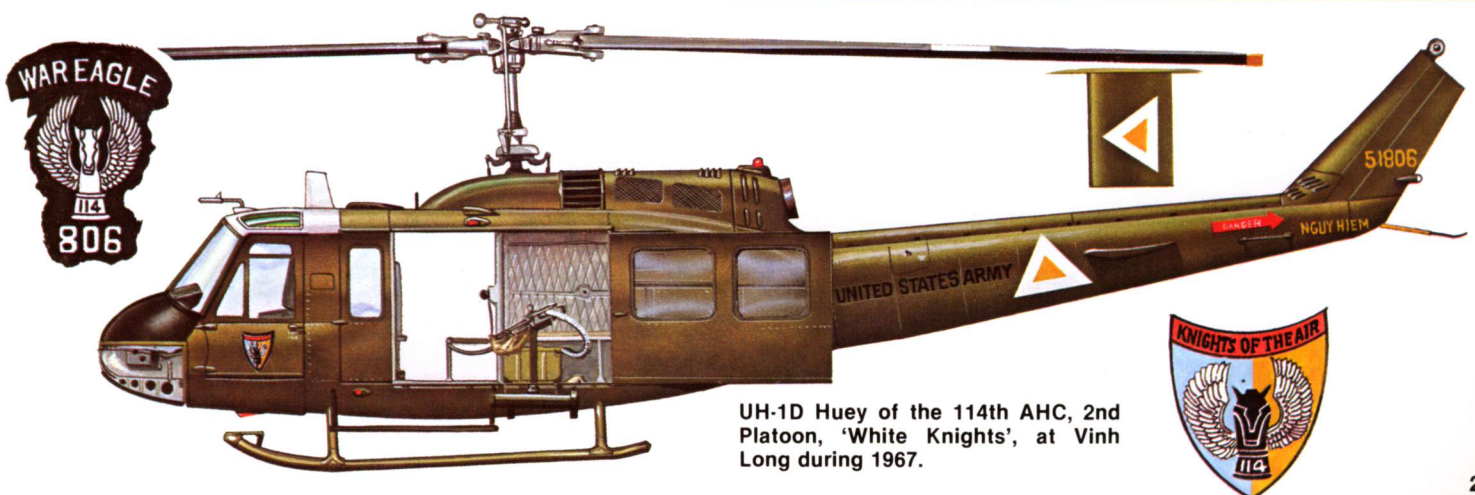


UH-1B Huey of the 1st Platoon, Battery 'C', 2nd Battalion, 20th Artillery, 1st Cavalry Division (Airmobile) at An Khe during November of 1966.



These UH-Bs from the 1st Cavalry Division were among the first from the unit to deploy to Vietnam. These are seen at the unit's base at An Khe, nicknamed the 'Golf Course'. (Chenoweth)

This UH-1C gunship takes off from LZ 'Two Bits' in the An Loa Valley. From 'B' Troop, 1st Squadron, 9th Cavalry, of the 1st Cavalry Division, it is fitted with the XM-158 rocket launcher and XM-50 mini-guns. (Mutza via Drendel)



UH-1D Huey of the 114th AHC, 2nd Platoon, 'White Knights', at Vinh Long during 1967.





(Above) Stumps from earlier fighting forces this Huey to hover while the troops jump out. In such an instance the helicopter was a sitting duck for enemy troops. This UH-1D, from the 48th AHC, 'Blue Stars', unloads troops from the 101st Airborne near the town of Phan Thiet. (US Army)

(Below Left and Below) While the bulk of the helicopter effort by the Army was to move its own men and material, it also helped out the other services when its unique helicopter assets were needed for special duties. The heavy lift capabilities of the CH-54 are seen as they lift a Navy F-4 Phantom and an Air Force C-7 Caribou to rear base areas. Both craft made emergency landings and were only retrievable by means of a helicopter. Only the Skycrane was powerful enough to carry out these tasks. (US Army and Sikorsky)



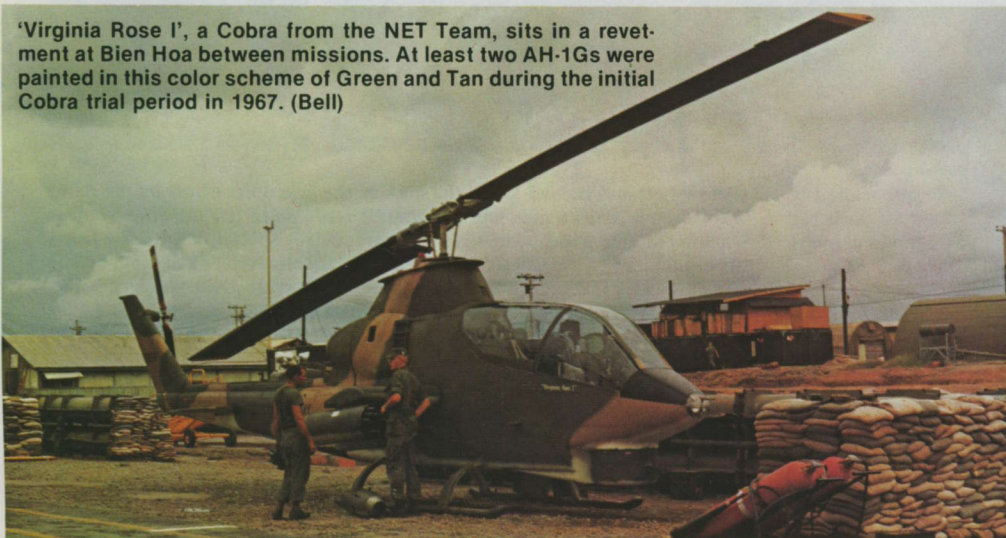




AH-1G 'Cobra' of the 2nd Battalion, 20th Artillery Regiment (Aerial Rocket Artillery) 1st Cavalry Division (Air-mobile).

DON GREEN

'Virginia Rose I', a Cobra from the NET Team, sits in a revetment at Bien Hoa between missions. At least two AH-1Gs were painted in this color scheme of Green and Tan during the initial Cobra trial period in 1967. (Bell)



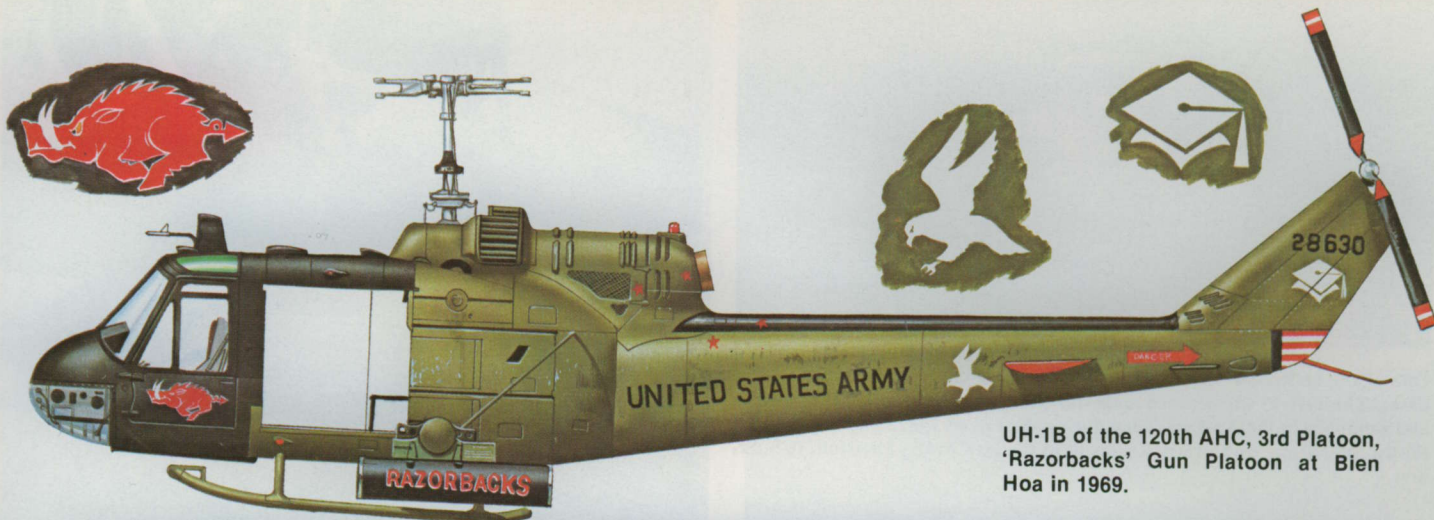
(Above Right) In an attempt to provide Huey door gunners with more firepower a pair of M-60s were sometimes mounted on a modified gun pedestal. These M-60s have been modified from the standard infantry weapon.

A UH-1C Hog from the 173rd AHC takes off from Lai Khe on a mission. This ship is from the 'Crossbows' gun platoon, as indicated by the marking behind the door. (Mutza via Drendel)



UH-1B Huey of the 335th Assault Helicopter Company, 1967.





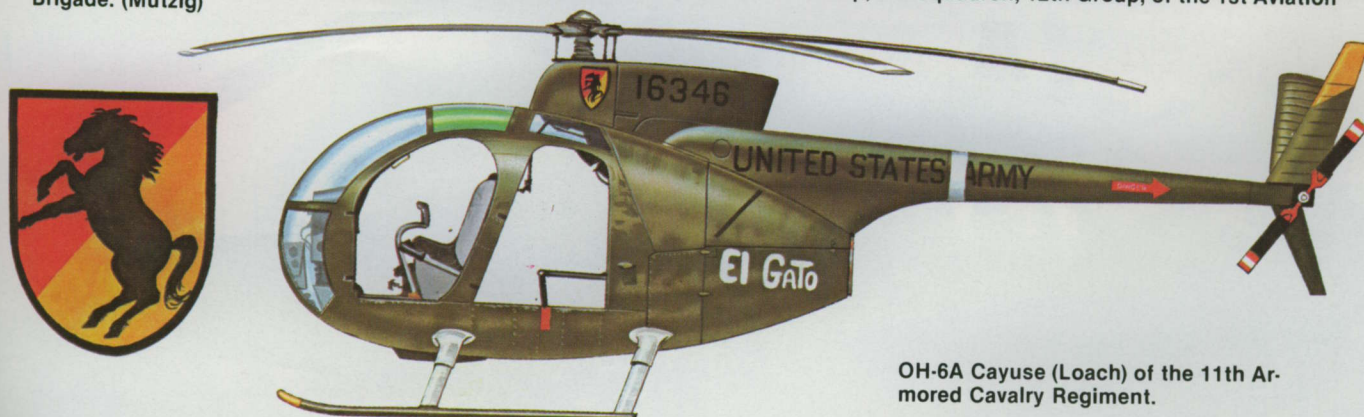
UH-1B of the 120th AHC, 3rd Platoon, 'Razorbacks' Gun Platoon at Bien Hoa in 1969.



A UH-1D sits atop a crude landing pad in III Corps. The Huey is from the 92nd AHC, 'Blue' platoon of the 'Stallions' which was the slick portion of the unit. The unit's identification number is carried on the door and tail surfaces. (Chenoweth)



This UH-1B, in a three tone camouflage finish, of the 17th Cavalry Regiment has just set down at a support base north of Bien Hoa. The White and Yellow triangle on the tail indicates this ship is from 'A' Troop, 3rd Squadron, 12th Group, of the 1st Aviation Brigade. (Mutzig)



OH-6A Cayuse (Loach) of the 11th Armored Cavalry Regiment.





One of the helicopters chief assests was the ability to operate from forward bases. This OH-13 sits between makeshift revetments of old 55 gallon drums and sandbags in the An Lao valley during the fall of 1967. The ship is from the 1st Squadron, 9th Cavalry Regiment of the 1st Cavalry Division. (US Army)



(Right) In addition to supporting American units Army helicopter assets were used to support Allied units. An American door gunner reaches down to help a wounded Korean into this Huey as Viet Cong snipers fire on them. Throughout the war the US provided the bulk of all helicopter assets used in Vietnam. Not until the end of the war did non US helicopter units make their appearance in any great numbers. (Bell)



(Above) A UH-1D from the 120th AHC 'Roadrunners' slick platoon comes in for a landing on a carrier during operations along the coast. The mortarboard insignia on the nose was often carried on the tail as well. (USMC via Mutza)

This UH-1D 'lightning bug' carries a hand fired .50 caliber machine gun for surpression fire. Although such heavy weapons were not normally fitted to the Huey, various experiments and field modifications were tried throughout the war to increase the helicopter's offensive firepower. (US Army)





(Above) OPERATION PERSHING was an airmobile assault carried out by the 1st Cav. against Viet Cong and NVA units in the AN Lao Valley. This OH-13 moves ahead of advancing troops to check out the ridgeline (in the background) for signs of enemy movement. (US Army)



A UH-1D from the 1st Cav. lifts off a forward base for a mission into the An Alo Valley during PERSHING. Note the unusual antenna mount on the landing skid under the door gunner. (US Army)

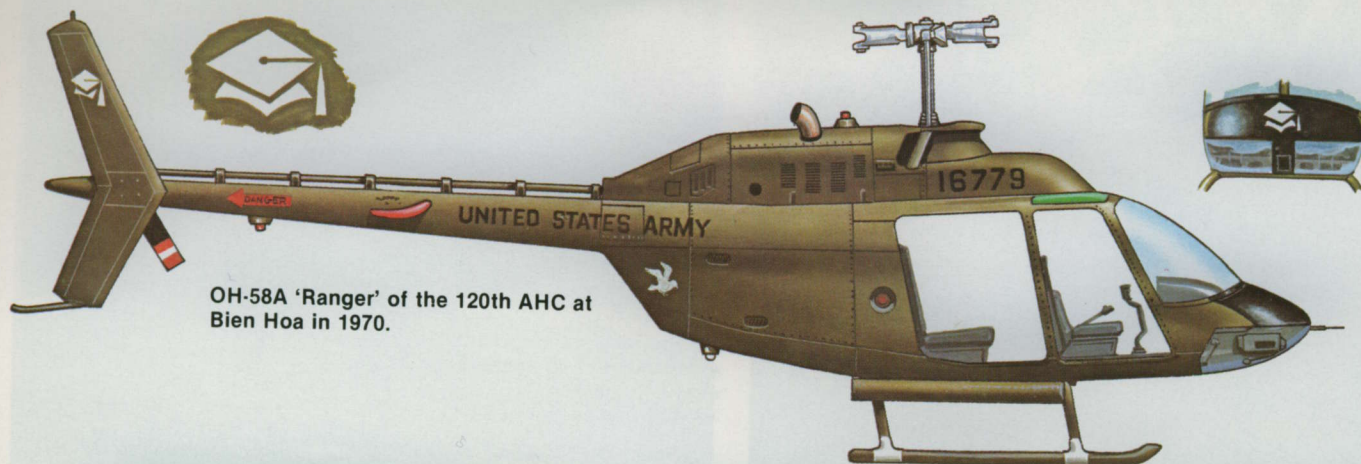
(Right) This Chinook, from the 179th MHC, 52nd Aviation Battalion, brings in a 105mm howitzer to a fire support base of the 4th Infantry Division in the Central Highlands. This particular howitzer is one of the older models initially used in Vietnam. Its replacement can be seen in the following photograph. (US Army)



(Below) In addition to assault helicopter companies the Army also utilized medium helicopter companies equipped with the CH-47 Chinook. Rarely used in a direct assault role because of their size, they were used to bring in follow-up waves of troops, supplies, and equipment. This Chinook from the 196th Medium Helicopter Company (MHC), 223rd Aviation Battalion, brings in a 105mm howitzer during OPERATION BOLLING northeast of Tuy Hoa in Phu Yen Province. (US Army)







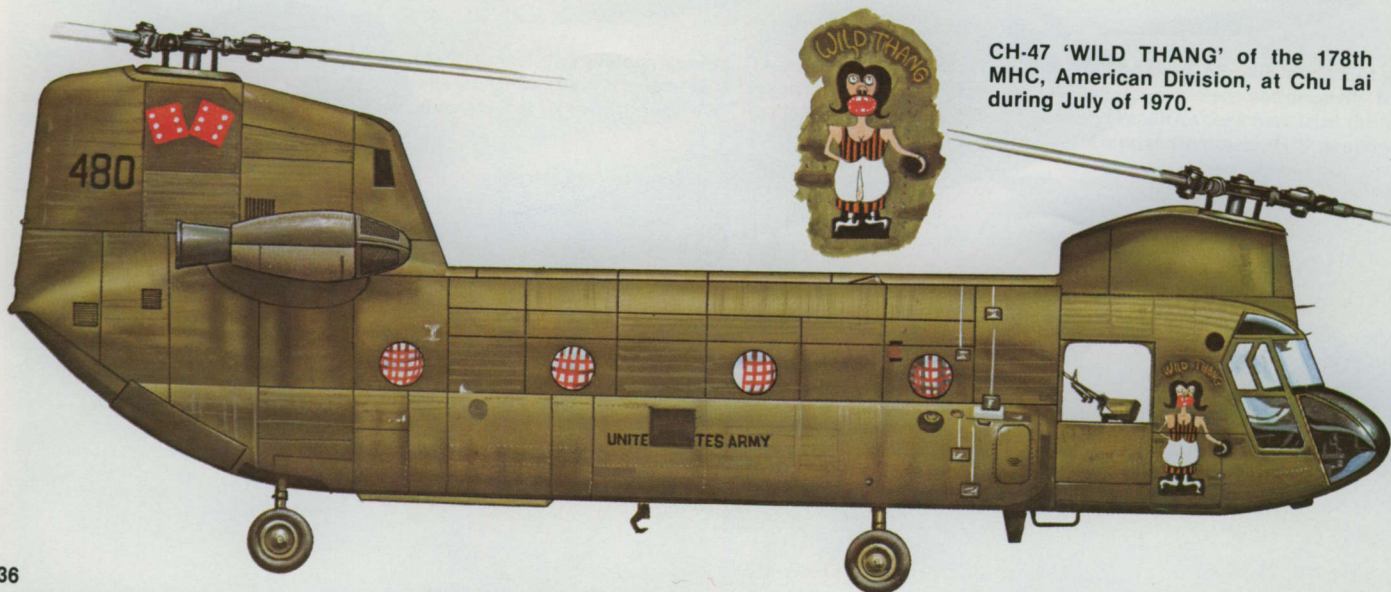
OH-58A 'Ranger' of the 120th AHC at Bien Hoa in 1970.



A CH-47 Chinook from the 242nd MHC of the 29th Aviation Battalion picks up troops from the 25th Infantry Division near Cu Chi. Note the kicking mule insignia that can just be seen on the forward rotor cover. (Mesko)



This OH-58A is from the 20th Engineer Brigade based at Bien Hoa. The unit was responsible for activities within III and IV Corps. (Mesko)



CH-47 'WILD THANG' of the 178th MHC, American Division, at Chu Lai during July of 1970.



CH-54 Skycrane of the 1st Cavalry Division (Airmobile) carrying a 10,000lb bomb, I Corps during October of 1968.



This CH-54 Skycrane from the 478th Aviation Company sits on the helopad of the 199th Infantry Brigade at Long Binh. The box shaped objects ahead of the intakes are a filter system designed to overcome the extremely dusty conditions in Vietnam during the dry season. (Mutzig)



(Above Right) This CH-54 Skycrane is from the 273rd Aviation Company, of the 12th Aviation Group, also based in Long Binh. This Group provided support to III and IV Corps under the control of II Field Force. (Mesko)



'ANACRONISTI C', an OH-6A Cayuse from the 3rd Squadron, 17th Cavalry, 12th Group, 1st Aviation Brigade, receives a pre-flight check at a forward base of the 199th Infantry Brigade. This Loach may be from HQ Troop but the band of color is not clear enough to pinpoint this. (Mutzig)



OH-6A Loach of the 1st Squadron 'E' Troop, 9th Cavalry, 1st Cavalry Division (Airmobile) at Lai Khe during the Fall of 1970.



CH-54 Skycrane of the 1st Cavalry Division (Airmobile) carrying a 10,000lb bomb, I Corps during October of 1968.



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OH-6A Loach of the 1st Squadron 'E' Troop, 9th Cavalry, 1st Cavalry Division (Airmobile) at Lai Khe during the Fall of 1970.





This Huey from the 282nd AHC 'Black Cats' slick platoon, comes to the aid of a Marine patrol that has taken casualties during OPERATION HICKORY in I Corps. Cat insignia is Black on a White or Yellow circle. (USMC via Drendel/Mutza)

(Below) A CH-47 from the 1st Cav sits atop a mountain LZ as disembarked troops prepare for a search and destroy mission in the Cay Giep Valley. The ability to put troops and artillery on such mountain positions gave US troops tremendous tactical advantages in both offense and defense against NVA troops. (US Army)



An OH-23 and UH-1D sit on the landing pad at Di An while the crews try to repair the light observation helicopter for a flight back to the base at Ben Cat. Visibility from the OH-23's bubble canopy was excellent, although when it hovered the crew sweltered under the direct rays of the sun as there was little air movement in the cockpit. (US Army)

A UH-1D from the 173rd Airborne Brigade lands troops near Dak To during fierce fighting in the latter part of November 1966 at Hill 875. The insignia on the nose and door is a White wing with a Red sword on a Blue background. (US Army)







Throughout the war helicopter pilots exhibited a flair for personal markings on their ships. This UH-1B from the 1st Aviation Battalion, 'A' Company, nicknamed 'Big Iron' flew in support of the 1st Infantry Division. The division's insignia, a Red 'One' on a Green patch is carried under the name on the nose. (Chenoweth)

In this side view of 'Big Iron' the name can also be seen on the XM-3 rocket pack. This particular ship is painted in a three tone camouflage scheme of Dark Olive Green, Olive Drab, and Light Tan. The canvas covers the gun mount for twin M-60s. (Chenoweth)



Another UH-1B, this one from the 118th AHC, 'Bandits' gun platoon, sits at Tan Son Nhut in 1967. The platoon insignia on the door is a Black mask on a Yellow oval. The bird on the nose is White with a Blue eight inside it. (Chenoweth)





UH-1D/H Huey of the "Wasp" Platoon, 116th Assault Helicopter Company "Hornets" at Chu Lai in 1971.



A UH-1C from the 119th AHC sits on a runway at Pleiku in 1967. The ship is from the "Crocodiles" gun platoon, as indicated by the nose insignia. It has Red tail surfaces, a Red, White and Blue band on the tail and stars on the bottom of the boom under the rotor head. (Michaels)



This UH-1C Gunship from 'A' Troop, 3rd Squadron, 17th Cavalry is at a forward support base. It is armed with mini-guns and 2.75 inch rockets. (Mutzig)



CH-47 Chinook, 158th Aviation Company, 101st Airborne Division (Airmobile), at Camp Eagle in August of 1971.



# A New Gunship

Since the first experiments by the UTTCO Hueys, the UH-1 series had served as the only gunship in Vietnam. And while the Huey gunship or 'hog', as it became known, had performed admirably, it was basically an interim system which the Army had been forced to fall back on. Efforts to develop a pure gunship had begun back in the early 1960s when various helicopter manufacturer had approached the Army with proposals about such a system. At first the Army was reluctant to approve a dedicated gunship system but after several studies and proposals were looked at, it gave in. However, because of Air Force complaints about the Army trying to duplicate their efforts, the Army decided to go with a totally new system that incorporated the latest in radar, computers, and armament.

Unfortunately, what the Army now required was almost technologically unfeasible, and extremely expensive. On top of this, the system as envisioned by the Army would not be ready for service for some time. Since the Army needed a helicopter gunship as soon as possible, it re-evaluated the program. Fortunately, Bell Helicopter had been carrying out its own research on a relatively simple nearly 'off the shelf' system based, in part, on UH-1 components. After seeing a prototype of the system perform the Army was so impressed that they decided to go with this gunship. The designation given to this new gunship was AH-1. It quickly acquired the nickname 'Cobra', and from that point onward was seldom referred to by its numerical designation.

This new design was totally different from the older UH-1 Huey gunship. With a frontal area of only three feet and a long tapered fuselage, the Cobra presented a much smaller target to enemy gunners. With such a streamlined shape the new gunship was much faster than the older Hueys, better protected, and even with a full load of armament could outrun any helicopter it was escorting. For armament the Cobra had a revolving turret under the nose equipped with a mini-gun and a 40mm grenade launcher. In addition short wing stubs behind the cockpit could carry a variety of rocket and gun pods depending on the needs of the mission. All this was controlled by a gunner and pilot who were tandemly seated in a well armored cockpit with exceptional visibility. All these features gave the Cobra tremendous potential, and, when combined with its moderate price, provided the Army with a exceptional new system.

The initial deployment of the new gunship took place in September of 1967 when six Cobras were assigned to the 1st Aviation Brigade's New Equipment Training Team (NETT). After working the bugs out of the new ship, the team began training the 334th Assault Helicopter Company. After a work up period the 334th became the first unit to take the Cobra into action. While working with the 334th, the test team worked out a syllabus of operations for the new gunship. As with any new system certain technical problems arose but none of these were serious. The problems which did arise were more related to crews becoming familiar with the Cobra rather than technical problems with the Cobra. Pilots and gunners had to adjust to the added speed and maneuverability of the new gunship and relearn their attack patterns. Crews also had to learn to do without the extra eyes and ears of the door gunners they had on the older Hueys. Finally, they had to adapt to the

closed cockpit which shut out the external noise which they had been used to when flying the UH-1s. Crewmen could no longer hear the enemy firing at them but now had to watch for the telltale signs of tracers floating up at them. However, as the crews became used to the new machines, they began to realize how much more advanced over the older gunships it was. While the Huey had performed admirably in the gunship role, the design could only be stretched so far. In the Cobra the Army had a weapon which could, if properly employed, raise havoc with the enemy. Once the new ship received its baptism of fire, the demand for it far outstripped production as various gunship units clamored to re-equip with Cobras. It was some time before all units could be re-equipped but by the late 1960s the Cobra had replaced most of the older Hueys in gunship platoons.



The new AH-1G Cobra gunship arrived in Vietnam during September of 1967 and at least two of them were painted in a two-tone camouflage scheme. The crew of this Cobra prepare for a mission during the early evaluation program in which the new machine was placed upon arrival in-country. (Bell)

The new Cobras could carry a variety of ordnance on its stub-wings including rocket packs, a number of different gun pods, and mini-gun gattling mounts in addition to the nose turret which mounted a mini-gun and grenade launcher. The AH-1G Cobra very quickly became the major gunship used all across Vietnam as a replacement for the less powerful Hueys. (Bell)





# The Border Battles

By the early fall of 1967 American troops had driven the large Viet Cong and NVA units from the populated areas of Vietnam. In an effort to rebuild their shattered formations the communists had retreated to camps along the Cambodian and Laotian borders to reequip and train new recruits. From these areas the communists hoped to launch a new wave of attacks when the time was ripe. To forestall such a move Westmoreland began conducting sweeps in the border areas. And while these actions kept the enemy off-balance, initially no significant contacts were made. The NVA and Viet Cong had learned to respect the mobility which the helicopter gave US forces, and despite a constant shuttling of units by chopper into the border areas the communists were able to side step most of the troops until they could choose their own battleground.

On 29 October the NVA launched two regiments, the 272nd and 273rd, against the isolated town and Special Forces camp at Loc Ninh. Loc Ninh, located due north of Saigon, near the Cambodian border was not strongly defended and the NVA felt the two regiments could easily and quickly overrun it. However, immediately after the attack began, General Westmoreland began moving reinforcements to the town and the surrounding country side by helicopter. For a week the battle raged as more US infantry and artillery battalions were helicoptered in to hold the town and block escape routes. When the battle finally ended in mid-November, the estimated NVA dead numbered close to 2000. Far from being an easy victory, Loc Ninh had turned into a charnel house for the two NVA regiments. This battle illustrated how the helicopter allowed Westmoreland to concentrate six infantry battalions and their supporting artillery within a few days in an area where no US regular troops existed when the battle began. Only this ability to move troops on such short notice by helicopter saved the town from falling to the enemy and resulted in a major American victory.

Further north the NVA struck again in the Central Highlands around Dak To near the juncture of the Laotian and Cambodian borders. The town, astride a natural infiltration route along Route 312, was normally defended by ARVN and Special Forces irregular troops. Earlier in the year it had been the sight of a fierce battle involving the NVA and the 1st Cavalry. Now, with their wounds healed, the NVA moved back into the area and began shelling the town and attacking isolated outposts. Elements of the 4th Infantry Division were moved into the area, followed by the 173rd Airborne Brigade, the 1st Brigade of the 1st Cavalry, and six ARVN battalions. Helicopters airlifted artillery units to firebases cut into the top of mountains, and inserted a US battalion into the dense, mountainous jungle terrain to search for the four NVA regiments (24th, 32nd, 66th and 174th). Without their helicopters for movement US forces would have been unable to effectively engage enemy units hiding in the inhospitable, roadless region. The fighting was fierce and casualties were heavy as some units ran into fortified positions. At Hill 875, the 173rd Airborne was hit by intense enemy fire and even helicopters were initially unable to bring in reinforcements or evacuate the wounded due to heavy ground fire. Eventually, supporting fire allowed the helicopters in but

the fighting continued for four days until the hill was taken. Though the outcome of the battle was a US victory the cost was extremely high. The NVA lost over 1,600 dead but US forces suffered heavy casualties with nearly 300 killed in action. Again the helicopter had allowed General Westmoreland to concentrate his forces where the enemy threatened. In the hilly trackless terrain around Dak To the helicopters provided the means by which US forces could be moved when and where the need arose. The NVA was unable to match this mobility and despite bitter resistance the Americans were again able to achieve a major battlefield triumph.

As 1967 drew to a close the war appeared to be moving along well for the US and Allied forces. Overall, the tide of battle had shifted to the favor of the Allies, due in large part to the battlefield mobility which the helicopter had provided. In almost every significant engagement with the enemy General Westmoreland had used helicopters to either bring his forces into battle or counter enemy troop concentrations and attacks. Even as the year ended, plans were underway to shift the 1st Cavalry Division to I Corps to counter a significant enemy threat to the area from Laos and North Vietnam. Never before had a commander been able to shift forces as quickly as Westmoreland could. Unfortunately, despite the overwhelming advantage the helicopter gave him, the enemy had devised a plan which would have far reaching affects totally out of proportion to its military achievement.

**The new OH-6 carried a mini-gun mounted just behind the pilot's compartment. Some crews experienced problems with the gun while others swore by it, but it did give the little ship a healthy punch. Often times the crew would remove the door for better observation and for quick escape in case of a crash. (US Army)**



**A new machine that arrived about this time in Vietnam, the Hughes OH-6A Cayuse or 'Loach' as it was nicknamed, was a light observation helicopter. Though viewed somewhat skeptically because its engine was mounted**

**beneath the tail boom where there was little protection from ground fire the new helicopter soon became very popular with its crews and proved to be a rugged, dependable machine, far superior to the OH-13 and 23. (US Army)**



# Tet and Khe Sanh

In the latter part of 1967 the NVA began increasing their strength in I Corps. Intelligence detected a substantial growth in the number of communist troops around the Marine base at Khe Sanh. From these reports and battlefield contacts it appeared that the enemy might try to overrun the Marine garrison in an attempt to duplicate their victory over the French at Dien Bien Phu during the First Indochina War. Though General Westmoreland and the marine commander both felt the leathernecks could hold out, the increase in enemy troop strength stretched US ground assets in I Corps extremely thin. To counter this and provide a force to relieve the Marine garrison, Westmoreland began to shift elements of the 1st Cav to the region.

By the end of January a good deal of the 1st Cav Division had been reoriented toward the threatened area. Then, on 31 January, all hell broke loose across Vietnam. The communists launched their infamous Tet Offensive\*. Nearly every major city and military post in the country was hit by either NVA or VC troops who had unobtrusively slipped into position in civilian clothes during the Tet festivities. Since most US ground units were in the field away from these attacks the initial weight of the attacks fell on security forces and MP units. Other than these, the only forces able to respond immediately were armored squadrons and gunship or helicopter units. In particular the gunships proved invaluable during the initial hours of the Tet Offensive when communist forces tried to overrun their targets before US or ARVN troops could respond to the threat. Throughout the country outnumbered defenders at airfields, headquarters complexes, supply depots and a variety of other positions were besieged by numerically superior enemy forces. Often times a gunship made the difference between whether these positions held or were overrun by the communists.

At Tan Son Nhut airbase enemy troops penetrated the base perimeter before being stopped by low flying gunships just short of important Air Force positions. At the neighboring MACV complex enemy troops swept over a golf course from their hiding place in an adjacent cemetery to hit the perimeter of the compound. The weight of their onslaught forced the defenders back. Gunships from the 120th Assault Helicopter Company

*\*Tet is a national Vietnamese holiday which might be best described as a combination of Christmas and New Year.*

The AH-1 Cobra was available just in time as the Viet Cong and NVA launched their infamous 'Tet' offensive in the early hours of January 31st, 1968. The new Cobras proved to be excellent in pinpointing targets amid the close quarters in the cities where much of the Tet fighting took place. Here a Cobra makes a strafing run on Viet Cong positions in Cholon, the Chinese portion of Saigon. (Bell)

(AHC), the 'Razorbacks', were called in to relieve the pressure. Coming in just above treetop level the gunships raked the golf greens with machine gun and rocket fire. Exposed enemy soldiers fell in heaps as the helicopters made pass after pass over the area. By the time the gunships were done the enemy assault force was decimated. The compound defenders were then able to consolidate their position. Later, when things quieted down, hundreds of enemy dead were found outside the barbed wire. Without the support of the 'Razorbacks' the communists would certainly have broken through the defenses and possibly captured or destroyed MACV Headquarters.

Helicopters played an equally important role in other actions across the country. They helped relieve the beleaguered US embassy in Saigon by landing paratroops on the roof who then flushed out the enemy sappers who had managed to force their way into the embassy grounds the previous night. At Bien Hoa airfield Cobras from the 334th AHC and the NET Team supported air force security teams at both Tan Son Nhut and Bien Hoa as they battled bands of guerrillas. Caught between the ARVN defenders and US troops the communists suffered tremendous losses. In two days of fierce fighting the



One of the hazards faced by the helicopter crews is shown here as a Cobra pulls up over high tension wires after a strafing run. Such hazards were probably never dreamed of when Bell first designed the Cobra for use in Vietnam. (Bell)





NVA lost nearly a thousand men to the gunships and allied ground troops. By 2 February the enemy threat to Quang Tri had been completely eliminated. This was a serious setback for the communists since Quang Tri was a major communications hub in I Corps and its loss would have severely hampered relief efforts to allied positions in the area, especially Khe Sanh.

Initially the Tet Offensive was seen as an attempt to divert US attention and resources from the enemy siege of the Marine base. However, when no NVA attacks occurred at Khe Sanh Westmoreland was able to commit his relief forces to other areas where they were more seriously needed, such as Hue, Phu Bai, and Da Nang. Despite this setback, the relief of Khe Sanh still remained a military and political necessity and Westmoreland ordered planning for it to continue and be carried out as soon as possible. By the end of March the enemy offensive had run its course and been soundly defeated. With his position consolidated Westmoreland could once more focus his full attention on the relief of Khe Sanh. Code named PEGASUS, this operation was a joint allied operation whose purpose was not only to relieve the Marines but to cause the destruction of any NVA troops still in the area.

As planned, PEGASUS called for a two pronged airmobile assault toward the base in combination with a Marine drive on the ground along Highway 9. Two brigades of the 1st Cav would land on either side of the road to Khe Sanh and link up with the Marine column. Once this had occurred the Marines at the base would push toward the column while another 1st Cav brigade and an ARVN task force landed south of the Marines. From these positions they would link up with the Marines from the base, and eventually with the relief force.

The operation began on 1 April when the Marines, and Air Cav troops from the 3rd Brigade, moved out in the early morning hours. Weather delayed the second portion of the airmobile operation until early afternoon, but by the day's end PEGASUS was in full swing. Caught by surprise the enemy offered only token resistance. Unfortunately, the bad weather experienced on the opening day of the operation was to remain throughout the entire battle. However, in spite of this PEGASUS continued to gain momentum. Because of the light resistance the 2nd Brigade of the 1st Cav moved up their air assault a day earlier than anticipated. Coupled with this move the Marines at Khe Sanh moved out from their perimeter to secure a strategic hill top near the base on the fourth day of the attack. The next day the troops

from the 1st Brigade air assaulted into LZ Snapper, south of Khe Sanh. Then on 6 April, elements from the 3rd Brigade were airlifted onto Hill 471, taken earlier by the Marines, to relieve them for another attack. This was the first relief of the Marine garrison since the beginning of the siege.

With this link up the stage was set for the final push to reestablish ground contact with the isolated garrison. On 7 April the air cav troops at Khe Sanh began to attack south toward LZ Snapper while the Marines pushed out at several points from their perimeter. Meanwhile the NVA staged an attack on Snapper with rockets, mortars and a ground assault, but it was easily repulsed, costing the enemy twenty dead. Despite this attack, 1st Cavalry helicopters airlifted ARVN airborne troops into Khe Sanh that afternoon for what was considered the official link up with the garrison. However, there was still more fighting to come. US and ARVN battalions were airlifted into blocking positions near the Laotian border to block fleeing NVA units. The relief force on Highway 9 finally opened up an overland route with the base on 9 April. The next day, the old Lang Vie Special Forces camp was seized by troops from the 1st Brigade. This camp had fallen earlier in the siege to an NVA attack led by Russian PT-76 light tanks. During the course of the recapture of the camp a helicopter from the 9th Cavalry spotted a PT-76 and called in an air strike which destroyed the tank. This was the only time during PEGASUS that NVA armor was seen although on a number of occasions helicopters reported seeing tread marks on the ground during reconnaissance flights.

The recapture of Lang Vie was to be the last significant action by the 1st Cav during PEGASUS. On the day it was retaken, the division received orders to prepare for an assault into the A Shau valley in southern I Corps. Elements of the division began immediately pulling out, and by 15 April when PEGASUS was officially terminated, the division had redeployed for this new operation.

**Because allied units were in the field away from the cities when 'Tet' was launched, troops were hastily flown back to strengthen allied defenses by helicopters. These Hueys have just dropped off troops to man the perimeter wire of an embattled position, possibly MACV Annex, during the early stages of the battle. (Bell)**



# The A Shau Valley

The A Shau Valley lies in the south western part of I Corps between two high mountain ranges. Ever since they had overrun a Special Forces camp at the southern end of the valley in March 1966, the NVA had developed the area into a formidable supply and staging base. From here, they were able to stage attacks into both I and II Corps with relative impunity because allied forces had never been able to stage a major assault into the valley due to other commitments. In addition, the close proximity of the Laotian border and Ho Chi Minh Trail, only about eight miles away, made it easy for the communists to funnel troops and supplies through the area. Ever since they had gained uncontested control of the valley the NVA had not only built up their bases but also constructed elaborate defenses and sited heavy anti-aircraft weapons around possible landing areas. Only a major allied force could enter this NVA stronghold.

Once PEGASUS was finished plans to attack into the A Shau Valley could be finalized. The general plan of OPERATION DELEWARE called for an airmobile assault by the 1st Cavalry and 101st Airborne divisions in combination with a ground thrust by the 1st ARVN Division. As in PEGASUS weather was to play an important part in this operation, along with enemy ground fire. In fact, the initial airmobile assault had to be pushed back three days to allow for additional air strikes and reconnaissance which the weather had hindered.

On April 19th, the first wave of 1st Cav's helicopters left their staging areas and headed for LZs Tiger and Vicki, located in the northern portion of the valley. Although the initial waves met minimal ground fire and resistance, later waves ran into intense anti-aircraft fire. Two dozen helicopters were hit and ten were lost as the enemy resisted furiously. Partially due to this fire, the artillery airlift scheduled to fly into LZ Vicki was postponed. While this was going on at the northern end of the valley, in the east the 101st air assaulted into a landing zone near the junction of Routes 547 and 547-A against moderate resistance.

Once these initial landings were accomplished the cavalry and airborne troops spread out throughout the entire northern portion of the valley to cut off any retreating NVA units in the area and clear the sector of anti-aircraft weapons. After four days the northern sector was fairly secure, the troops met only limited resistance and uncovered numerous supply caches. While ground operations were in progress, additional men and supplies had been brought into the landing zones in preparation for the second phase of the operation. Weather conditions, which during the first day of the assault had been dismal, began to improve, and coupled with the slackening resistance, allowed the US commanders to push their assault into the center of the valley

near the village of A Luoi where there was an old airstrip.

This assault was launched on 24 April when elements of the 1st Cav's 8th Cavalry Regiment made an airmobile assault into a landing zone just south of the town. Once the LZ was secured, additional troops were brought in and the surrounding area was searched and secured. Little resistance was encountered but numerous enemy supply depots were uncovered, along with numerous anti-aircraft guns which had earlier raised such havoc with the helicopters. Once the airfield at A Luoi had been captured, the 1st Cav immediately began repairing and enlarging it to serve as the main supply point for the remainder of the operation. While the troopers labored to get the runway operating, helicopters ferried in material while Air Force cargo planes made parachute drops of needed supplies.

As these preparations were going on additional troops were brought into the valley to continue the search for NVA troops and their supply depots. ARVN units pushed further southward toward the old Special Forces camp while to the east the 101st Airborne continually made contact with fleeing NVA units and uncovered additional supply dumps. With the opening of the airfield at A Luoi the tempo of the operation increased. Despite heavy rains which washed out portions of the airstrip, allied forces continued search missions and continued to uncover large supply depots. By mid-May the units in the valley had made contact with those driving from the east. This link up basically spelled the end of DELAWARE although search missions continued for a while longer.

In looking over the final results of this major airmobile assault, the enemy lost nearly nine hundred killed against a little over one hundred allied dead. The operation also resulted in the capture of millions of rounds of ammunition, seventy vehicles, nearly a hundred crew served weapons, and almost three thousand individual weapons, along with other enemy supplies. On the debit side, in addition to casualties, the 1st Cavalry lost twenty-one helicopters to the heavy ground fire, along with numerous ones which were damaged. This operation was the costliest battle in terms of helicopter losses to date, but considering how intense the ground fire had been these losses were not extraordinary. In fact, this was the heaviest enemy air defense yet encountered, but in spite of it the 1st Cavalry and 101st Airborne were still able to carry out successful airmobile operations. Coupled with the poor weather, DELAWARE had been a severe test of the airmobile concept. Yet in the final analysis the concept, though severely tested, still achieved splendid results and fully justified itself.

**This OH-6 from the 17th Cavalry Regiment prepares to take off for a reconnaissance mission near the Cambodian border to look for infiltrating enemy units. The triangle on the fuselage indicates that this Cayuse is from the 3rd Squadron of the regiment. (US Army)**







To support the various army aviation units throughout Vietnam a number of fixed-wing units were formed to transport men and material as needed by the field units. Most of these planes were utility type transport aircraft with good short field landing characteristics. This U-1A Otter from the 54th Aviation Company operated out of the airfield at Vung Tau south of Saigon and served units in III and IV Corps. (US Army)

(Below) This Cobra from the 334th AHC, 1st Platoon 'Playboys' sits on the launch pad while the pilot makes a final check with his crew chief. The weapons on the wing-stubs are an XM-159 rocket pod with nineteen 2.75 in rockets and an XM-18 7.62 mini-gun pod. The diamond on the tail boom is White and Green, while the markings on the rotor housing and nose are in White. (US Army)



(Above) Maintenance was a vital task in keeping the helicopters in the air. These specialists from the 334th AHC, 145th Aviation Battalion work on a Cobra at Bien Hoa during a lull in the 'Tet' offensive. The ease at which most of the components of the AH-1G could be reached by maintenance personnel was a very important factor in the high in-service rate of the Cobra. (US Army)



PATRICIA ANN, a Cobra from an unidentified cavalry unit sweeps low over a Vietnamese village in search of enemy troops. Because of its small size and maneuverability the AH-1G was ideal for low level work like this. Often times the Cobra was joined by an OH-6 to form what was termed a 'Pink' Team for an aerial 'search and destroy' mission. (US Army)





## The War Changes

Despite the military setbacks suffered in Tet, PEGASUS, and the A Shau Valley, the communists reaped a major political victory from their Tet offensive. This was due almost entirely to the distorted news coverage by the US press and the anti-war movement. Dovish presidential candidates like Eugene McCarthy and Robert Kennedy made political hay of the Tet assault and opposition to the war grew. As a direct result of the Tet attack and its political aftermath, President Johnson announced he would not run for another term and drastically cut back on the bombing of North Vietnam. What the Viet Cong and NVA could not win on the battlefield was handed to them by the press and the anti-war movement.

Even though the communists had suffered huge losses in the Tet offensive they continued to carry out attacks against the cities and towns. Allied units worked to defend against these assaults and at the same time conduct offensive sweeps in and around the built-up areas to root out the enemy. By mid-May things had settled down enough that operations could once more be carried out in the field.

In the meantime changes were also occurring within the Army structure in Vietnam. General Creighton Abrams took over command of US forces in Vietnam when General Westmoreland was promoted to Army Chief of Staff. Soon after taking over Abrams received orders to convert the 101st Airborne Division to an airmobile formation. This move had been contemplated earlier but a shortage of helicopters prevented it. The original projected year long period of conversion was speeded up due to the ease with which the transition was accomplished. By August of 1968 the 101st had become an airmobile unit.

As summer turned to fall the enemy increased his activity north of Saigon, striking from sanctuaries in Cambodia. To counter this threat, the 1st Cavalry was ordered, in late October, to move down to III Corps to reinforce US troops in the area. Despite the immense logistical problems associated with moving an entire division, the move, by air and sea, took only two weeks. By mid-November the division was conducting operations along the Cambodian border. This move followed an earlier one by a brigade from the 101st which had originally been in the highlands but was then sent to aid the 25th Infantry Division near Saigon. Basically, these moves reflected the fluid situation throughout the country in late 1968. While the communists had been badly hurt by their earlier losses, they were still able to pose a treat from

A UH-1H from the 101st Airborne Division comes in for a landing during OPERATION NEVADA EAGLE. The division insignia, an eagle on a Black patch, can be seen just forward of the tailplane. The major difference between D and H model Hueys was a new engine uprated for better hot day/high altitude performance. (USMC via Drendel/Mutza)

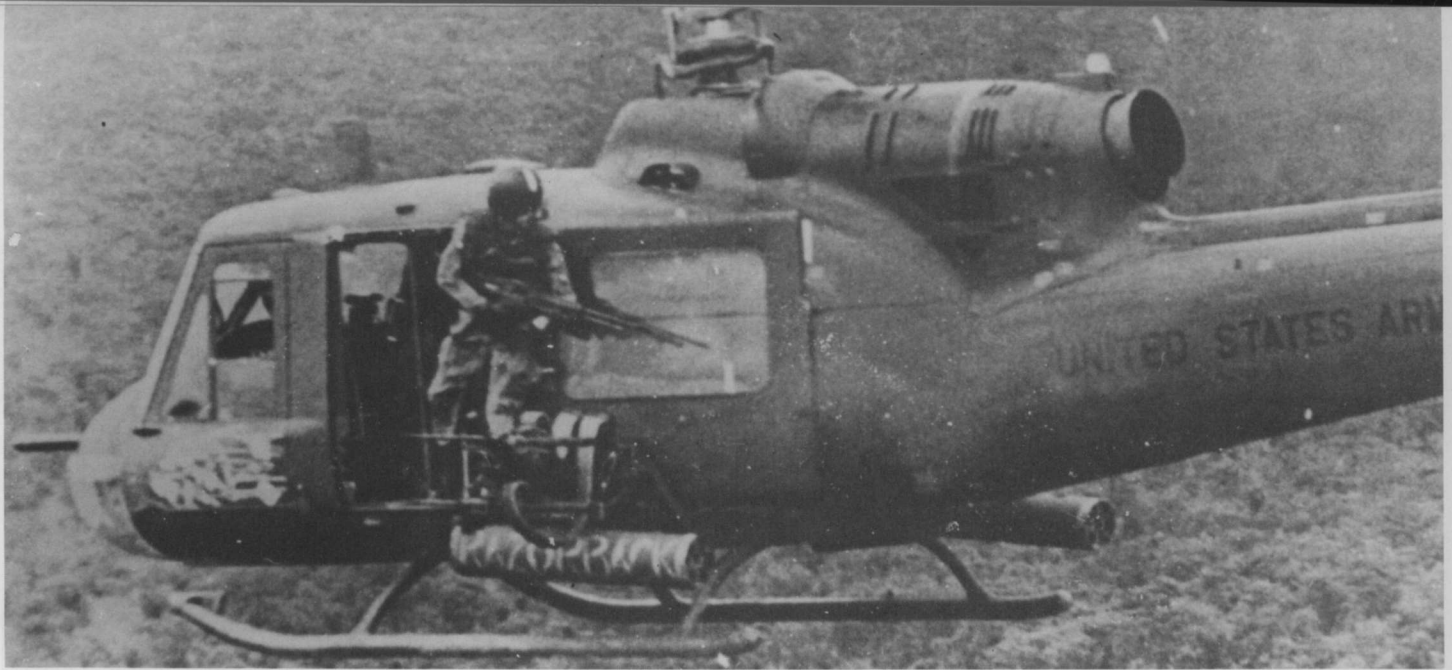
A CH-47 Chinook from the 242nd MHC, 269th Aviation Battalion brings in supplies to troops of the 25th Infantry Division during operations around the Nui Ba Den Mountains in III Corps. The unit's insignia, a kicking mule, can be seen above the cockpit. (US Army)



their sanctuaries in Cambodia and Laos.

Meanwhile in the United States, a new president, Richard Nixon was elected, and to fulfill part of his campaign promises, plans were made to begin redeploying US forces and turn more of the war over to the Vietnamese. Unfortunately much still remained to be done, and time was now working against US forces. Within a year major cuts would weaken American combat power and place a strain on the remaining combat units. As units rotated home, the helicopter would become even more important to troops still in the field.



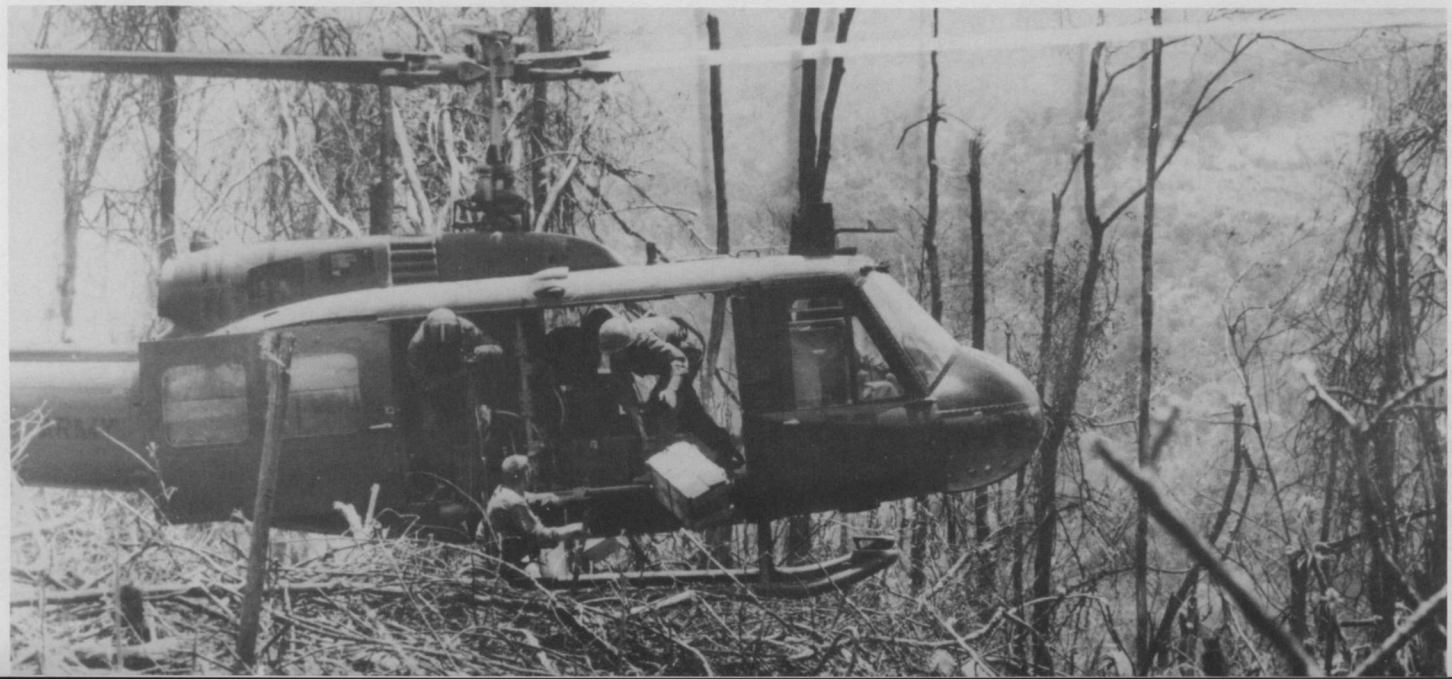


A UH-1B from the 120th AHC 'Razorbacks' gun platoon makes a firing pass over an enemy jungle position. The name 'Razorback' is carried on the rocket pod and the charging boar hog is painted on the door. The door gunner provides covering fire to the rear as the ship passes over enemy positions. Instead of a fixed mount for the M-60 machine gun many helicopters had a flexible bungi strap for holding the gun. This allowed the gunner greater movement and a better field of fire. (Bell)

Because landing zones were mostly known to the enemy and were usually watched or defended, artillery or air strikes were called in to create new clearings. One way that LZ's could be created was by dropping a huge bomb to open up a clearing for the helicopters to come into. This CH-54 is about to lift off with a 10,000 pound bomb for just such a mission. The fuse extender ensures that the bomb will detonate just above the ground to achieve the maximum blast results. This particular Skycrane is nicknamed 'BIG MOTHER' and is from the 1st Cavalry Division. It has flown two previous missions of this type, which are marked on the door. (USAF via Dana Bell)



This Huey hovers as the crew throws out boxes of ammunition to troops of the 4th Infantry Division who are trying to block the escape of NVA troops back into Cambodia. Previous air strikes and artillery barrages have made somewhat of a cleared LZ for the chopper but fallen debris and trees still make the clearing dangerous for the helicopter. (Bell)





A Huey from the 116th AHC, 'Hornets' slick platoon, brings in troops from the 25th Infantry Division to fire support base 'Wire' near Cu Chi. The hornet motif on the nose is in Yellow while the tailplanes are in Red. (US Army)



Troops unload vital supplies, Canada Dry Ginger Ale and C rations, from a UH-1D at fire base 'Berchtesgarden' during OPERATION SOMERSET PLAIN in the Central Highlands. Such luxuries as soda pop, beer, and even ice cream were often carried by Hueys on resupply missions. (US Army)

An unidentified Cobra prepares to lift off on a mission to support US troops. The mini-gun pod on the wing stub appears to have been obtained from the air force because of the camouflage paint on the lower surface. (Bell)







Sometimes the Army even supplied an aerial towing service. This Chinook from the 242nd MHC helps pull a mired M-113 onto solid ground near Cu Chi. Had the M-113 been completely bogged down the services of a Skycrane would probably have been required. (US Army)

A CH-54 Skycrane from an unidentified unit heads for Vinh Long with a detachable cargo pod slung underneath. The ability to either carry such a containerized pod or a large load suspended from its cargo hooks made the Skycrane an extremely useful and versatile machine. (US Army)



An AH-1G flies over the jungle west of Pleiku in search of NVA troops. The dense jungle which covered the Central Highlands made detection of communist forces extremely difficult. (US Army)



# Cambodia

As soon as Richard Nixon took office 'Vietnamization of the War' became a key factor in his Vietnam policy. While announcing the redeployment of American combat troops Nixon pressed for military action to force the enemy to bargain at the peace table in Paris. In the early spring the 101st, supported by ARVN units, re-entered the A Shau valley to disrupt NVA attempts at reestablishing it as a staging area. The operation was terminated in early May, but later in the month the division again returned to root out newly discovered NVA forces in the Dong Ap Bia mountains overlooking the valley.

As these operations were going on the first phase in the redeployment began as elements of the 9th Infantry and 82nd Airborne prepared to go home. The remaining units continued operations, however, with the sector north of Saigon being one of the major hotspots. The 1st Cavalry, along with other units carried out numerous helicopter assaults in an attempt to clear the communists out of the area. This operation, the third phase of TOAN THANG ran until November and resulted in some 40,000 enemy casualties. However, this period of action resulted in few pitched battles such as had occurred earlier in the Ia Drang Valley, at Dak To, or during the A Shau campaign. The NVA and Viet Cong were hurting and they tried to choose the time and place of battle. Normally this meant they would assault a unit dug in for the night, or hit an isolated fire support base. Rarely would they engage US forces in daylight unless from ambush positions. Thus, the war had reached a sort of stalemate with the allied forces holding the upper hand, but with the communists grimly determined to hold on.

The main reason the NVA and Viet Cong were able to hold on after such heavy losses was due almost entirely to their sanctuaries in Cambodia and Laos. Without these sanctuaries the enemy would have been totally defeated long ago. Until US forces were allowed to enter these sanctuaries the war could drag on forever. Recognizing that these sanctuaries severely hampered his Vietnamization policy, President Nixon finally gave permission for US troops to clean them out.

Prior to this go ahead the 1st Cavalry had conducted a series of operations along the Cambodia border designed to interdict NVA and Viet Cong supply routes. These widespread airmobile operations, combined with helicopter surveillance, seriously weakened the communist forces and uncovered numerous supply caches. During the early part of 1970 the enemy increased his activity in the area but the 1st Cav was able to effectively counter these thrusts. Additional supply depots were also discovered, but their small size only served to heighten the suspicion that the main supply point was somewhere across the border in Cambodia.

With this information, and new intelligence reports, General Abrams began to lay the groundwork for the neutralization of the sanctuaries. In late April the 1st Cavalry was informed of the operation and ordered to prepare to launch an airmobile assault into Cambodia in conjunction with American and ARVN ground thrusts. The basic plan called for the 1st Cavalry to land troops deep in the 'Fishhook', a narrow projection of Cambodian territory which juts into Vietnam north of Saigon. The 1st Cavalry would link up with a ground thrust by the 11th Armored Cavalry Regiment. Other US and ARVN units would carry out airmobile operations on a lesser scale in adjacent areas. In addition, Cobra gunships would rove overhead searching for

targets of opportunity. The planners felt that if each element of the invasion force carried out its assignment the operation would result in the total destruction of the enemy's heretofore untouchable sanctuaries.

On 1 May elements of the 1st Cavalry began carrying out reconnaissance operations over Cambodia and almost immediately uncovered enemy troops and supplies. While US and ARVN troops were airlifted into landing zones Cobras buzzed overhead in search of enemy activity. Hundreds of NVA and Viet Cong troops were spotted and hit by machine gun and rockets as the Cobras flew low over the jungle. Resistance was spotty as the troops spread out on the ground to conduct search operations. Results were almost immediate as trucks, weapons, and supplies were uncovered in the first few days. On 4 May, helicopters observed a built up complex northwest of the sweep area. Additional reports followed and the next day troops were landed to check out the area. As the men fanned out they realized that they had discovered a major enemy supply depot which covered three square kilometers and contained storage bunkers, training facilities, quarters, mess halls, and repairshops. Eventually this area, nicknamed the 'City' yielded one of the largest supply dumps captured during the entire war. Other depots and facilities were uncovered the following day, including a number of automotive repair shops and over 300 vehicles, many of which were brand new.

But even as the operation was proceeding the political backlash in the United States caused President Nixon serious problems. The anti-war movement, whipped up by TV and press coverage, staged nationwide rallies. Four students died in one such demonstration at Kent State in Ohio. As a result of these repercussions Nixon ordered that all US troops be withdrawn by the end of June. As American forces hurried to meet the President's deadline more and more supply caches were uncovered as helicopters flew far and wide to checkout suspicious areas. Helicopters gave the troops the needed mobility to cover vast areas that even armored units did not possess. Finally, as the June deadline approached, the 1st Cavalry began a wholesale withdrawal from Cambodia. In addition to its own men and material the unit's helicopters also carried out as much of the captured supplies as possible. By the end of June the operation was complete. Little of value was left behind for the enemy. The entire Cambodian campaign had proven a resounding victory. Over 10,000 enemy soldiers were killed and enough supplies and weapons were uncovered to outfit 55 enemy battalions with small arms, and 90 battalions with crew served weapons. By any account the operation was a resounding success and this was due in no small part to the use of helicopters. Helicopters had provided the spearhead of the assault and allowed the troops to cover a far greater area than would have been possible for a typical ground unit. In addition Cobra gunships had inflicted severe losses of enemy troops who tried to retreat before the advance. In the final analysis the invasion would still have been successful without helicopters but their employment made the operation a far greater success. This was especially true when Nixon ordered the troops out earlier than expected. In the last major US ground action of the war, helicopters played a vital part and helped allied forces achieve a tremendous victory over the NVA and Viet Cong.

**Troops aboard this UH-1H relax as they begin their journey to a combat area from Camp Enari. Note the modified M-60 machine gun and smoke grenades for use by the door gunner. (US Army)**







This UH-1H from the 25th Aviation Battalion, 'A' Company, carries a makeshift napalm bomb allowing this slick to carry out an air strike on an enemy bunker complex. The division's insignia, a Yellow lightning bolt in an Orange Taro leaf, can be seen on the nose while the 'A' Company bear is located on the tail boom. (USMC via Drendel/Mutza)



Various experiments were tried throughout the war in how to deliver supplies and equipment. This Skycrane lifts a whole battery of late model 105mm howitzers to see if such a technique is possible. (US Army)



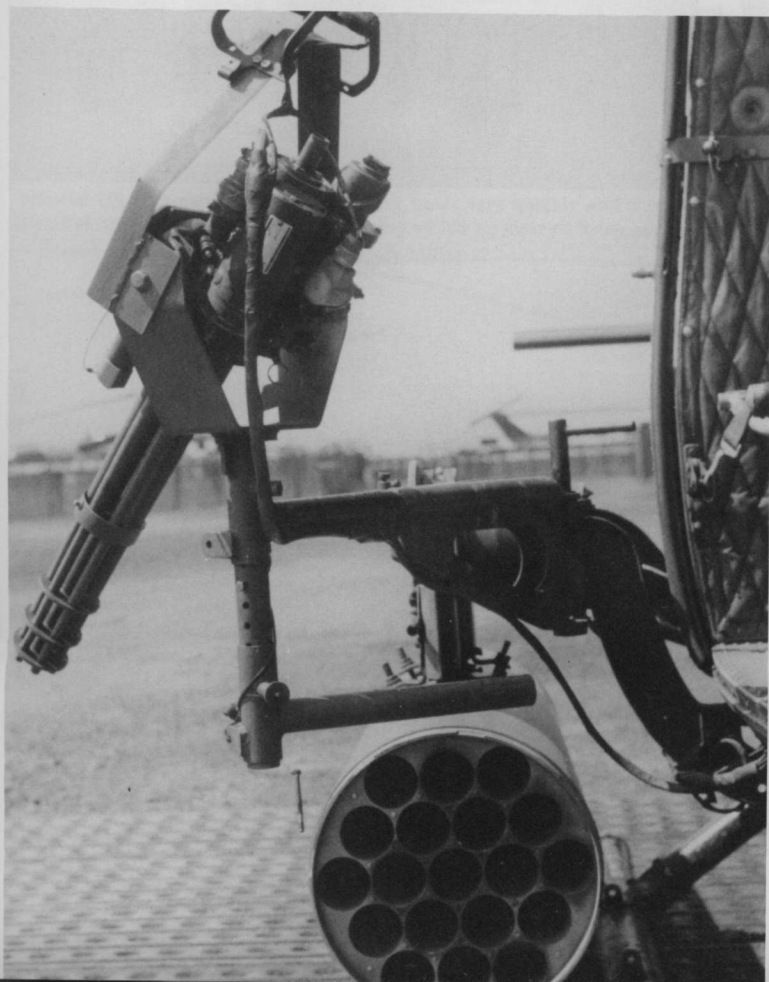
(Above) A large number of the helicopters which were sent to Vietnam had to be processed through a maintenance facility before being issued to a unit. This OH-6 is having its engine run up during a pre-flight test at Tan Son Nhut airbase just outside of Saigon. (US Army)

(Below) A Cobra from the 2nd Battalion, 20th Artillery Regiment (Aerial Rocket Artillery) of the 1st Cavalry Division makes a strafing run near Phuoc Vinh in August of 1969. The Red square around the 47 indicates 'B' Battery. The insignia on the rotor housing is a Blue cross with White birds in between the arms. (US Army)





Hueys settle into an LZ covered with tall elephant grass as the door gunners watch closely for signs of enemy activity. Often the Viet Cong or NVA would place tall, sharp spears among the high grass to impale the undersides of a descending chopper. (Bell)



(Left) An armament system which gained the favor of door gunners later in the war was the XM134 mini-gun whose six barrels could theoretically throw out 6000 rounds of 7.62 ammunition a minute. It is attached to a UH-1B by a Sagami mount. (US Army)

The standard M23 armament systems carried for the door gunners of both Huey slicks and gunships. The machine gun is an M-60D which was a modified version of the standard infantry gun. (US Army)







War has often been described as long periods of boredom punctuated by moments of sheer terror. These troops from the 101st Airborne Division slowly shuffle toward a group of Huey slicks as they prepare for a mission into the area around the DMZ. (US Army)

The boredom is over as troops jump into a LZ from the hovering Huey. Will the enemy have it zeroed in with rockets and mortars, or will a hidden machine gun suddenly open up, tearing apart both men and machine? (US Army)



(Below) A ground crew hurries to re-arm a Cobra while the pilot and crew chief confer over the next mission. Note the M-1 carbine carried by the pilot for personal protection. (US Army)



(Above) The mini-gun of a Cayuse is checked over prior to a mission by a member of the 101st Airborne Division. This particular ship is attached to the division's 3rd Brigade. (US Army)



(Above) This CH-54 Skycrane shows off the maze of wiring and pipes which makes the big ship function. Constant maintenance was needed to keep these huge birds operational. (US Army)



(Above) In addition to providing helicopter support for allied units the Army also provided reconnaissance support. This O-1 Bird Dog from the 199th Aviation Company, 214th Aviation Battalion was attached to the 7th and 9th ARVN Divisions in the Mekong Delta area. (US Army)



1969 saw the introduction of another new helicopter in Vietnam, the Bell OH-58A Kiowa. This new chopper was used in the command and control role, for transportation, and as a light observation ship. Eventually it was to take over most of the functions of the Hughes OH-6A. However, the crews of the Cayuse preferred the OH-6 to the OH-58 because they felt it was a more robust and dependable machine. (US Army)



This unidentified Cobra in a two-tone camouflage scheme darts among the hills somewhere in the Central Highlands. In such restricted conditions the excellent maneuverability of the AH-1G allowed the pilot a great deal of flexibility during a search mission. (US Army)

These men from an artillery battalion of the 4th Infantry Division prepare to load their tools onto a waiting UH-1H at fire base 'Challenge'. Helicopters allowed US commanders to shift artillery bases very quickly and it was not unusual for an artillery unit to begin firing within an hour of being set down, although a full 'dig in' took longer. (US Army)



This Chinook from the 196th MHC hovers over 'Challenge' to pick up water tanks for transfer to a new artillery base. The 196th at this point was attached to the 268th Aviation Battalion but earlier had served with the 10th and 223rd. (US Army)







This Kiowa, attached to the 1st Signal Brigade, was used to transport men and material to the various signal sites which operated throughout Vietnam. Though used as a light observation craft the OH-58 saw much more service as a transport because it could carry both men and supplies to isolated sites better than the OH-6 and was more suited to this task than the Huey which was in constant demand as a gunship and troop transport. (US Army)



(Right) Whenever a helicopter was downed every possible effort was made to salvage it. Here a CH-47 ferries a damaged Huey back to a rear base. To make it easier on the Chinook the rotors of the Huey have been removed as they would have put too much strain on even a CH-47. (US Army)

This damaged Huey from the 188th AHC is in such condition that it will be sent back to the US for a major overhaul. Such a job was not feasible for the facilities in Vietnam. (US Army)





(Above) An unidentified UH-1H picks up supplies at Fire Support Base 'Louis' near Pleiku. Note the case of 7 UP under the door gunner. Luxuries like this were always appreciated by troops in the field, especially if ice came along too. (US Army)

(Below) 'Leprechaun', a Cobra from the 1st Cavalry, lifts out of a forward refueling base during the invasion of Cambodia. Notice the Cayuse in the background and the 1st Cavalry insignia on the tail. The fuel drums on the ground are fitted with portable hand pumps, thus doing away with the need for more sophisticated equipment. (USAF via D. Bell)





# The Ultimate Challenge

## -- LAMSON 719

Throughout most of the war in Vietnam helicopters operated in a rather permissive environment with regards to anti-aircraft fire. Though on occasion the enemy did try to dispute assaults with heavy weapons, it never became a serious problem. However, in the late fall of 1970 the South Vietnamese government, with US backing began to lay the groundwork for a major airmobile-ground assault against strongly defended North Vietnamese positions in Laos. The purpose of this assault was to cut the flow of supplies to communist forces in Cambodia, and destroy stockpiles adjacent to I Corps in northern South Vietnam. From intelligence reports and the previous year's experience the best time to carry out the operation would come in February and March. This would be when the NVA was moving the greatest amount of supplies, and, if this flow could be seriously disrupted, North Vietnamese operations planned for 1971 would be severely curtailed.

Unfortunately, the plan faced a number of serious problems which previous assaults had not. Unlike other operations, US troops and advisors, due to Congressional restrictions, were not allowed on the ground in Laos. This required a modification of existing procedures regarding air support, helicopter operations, and search and rescue (SAR) flights. In addition the language differences between the ARVN and US forces made communication more complicated than in the past. Further, the weather over the operational area during the assault would be marginal at best. This meant that helicopter operations would be subject to rain, cloud cover, fog, and low overcast which could delay or even cause cancellation of flights. Even when operations could be carried out, weather conditions would place great demands on the pilot's flying ability and increase the need for constant vigilance during flights. The weather also influenced the choice of routes the helicopters could follow. Because of limited visibility due to fog, rain, and low overcast the helicopters for navigational reasons, would be forced to follow the river valleys. Though this proved helpful it also made it possible for the NVA to set up anti-aircraft positions along the more obvious approach routes and anticipate landing areas as the operation progressed. Finally, if all the natural hazards were not enough, the area, roughly thirty-five by sixty kilometers, was defended by over five NVA divisions with infantry, tanks, artillery, and anti-aircraft

guns. Most of these units were either in position to defend the key terrain features or close enough to react if needed. Because there were so few natural landing zones the NVA was able to defend these sites against possible airmobile assault. This further reduced the options open for helicopters and hampered the placement of troop and resupply operations. Though each of the conditions above had been encountered before they had never all been present for such a major operation. This operation would be a real test of the concept of airmobility.

The ARVN forces around which the attack was planned were the 1st Infantry Division, the 1st Airborne Division, the Marine Division, the 1st Armored Brigade, and three Ranger battalions. These were some of the finest troops that ARVN possessed and good results were expected from the operation. To provide these troops with support and airmobile assets the US command provided four Air Cavalry troops, an aviation group from the 1st Aviation Brigade, and a Marine medium helicopter squadron. In addition US air support was available as needed.

The plan called for the main assault to be made by the combined forces of the airborne division and armored brigade. The brigade would attack along Highway 9 while the airborne troops moved ahead by helicopter. While this was taking place the infantry division was to move along the southern flank of the highway to provide security while the Rangers set up fire support bases to guard the northern flank. The Marines were held in reserve near the support base at Khe Sanh in case a need arose for their employment.

The initial attacks of Lamson 719 began on 8 February, from the reestablished base at Khe Sanh. While tanks and APCs of the armored brigade moved along Highway 9 helicopters airlifted elements of the airborne, infantry, and rangers into position on either side of the highway. After securing these sites artillery pieces were ferried in to provide close support for the advancing units. The next day, 9 February, inclement weather cancelled all air moves, but failed to hinder the armored column. On 10 February an airborne battalion air assaulted into the Alouï area and linked up with elements from the armored brigade. In support of this, larger units were airlifted north of the town while to the south infantry elements set up additional support bases to cover the advance.

These first stages of the advance had gone according to plan but despite

**A door gunner peers down on the Cambodian countryside during a search mission in late May. Note the smoke grenades on the post, the gunners flak jacket, and the army issue mattress which the gunner is seated on. War might be hell, but this gunner wants to be comfortable, at least. (US Army)**





**A Cobra flies low over Cambodia in search of enemy troops. This AH-1G is from D Troop, 3rd Squadron, 4th Cavalry, of the 25th Infantry Division. Often times the unit to which a Cobra belonged could be determined by the shark mouth pattern it carried. (US Army)**

such an encouraging beginning, serious problems began to occur. Weather had caused cancellation of activity on the 9th and hindered operations on the other two days. Besides bad weather over the operational area, the helicopter also had to contend with adverse conditions over the forward base at Khe Sanh and the staging areas along the coast. Unless conditions were just right at all three areas flights could be delayed or even cancelled. In addition, the NVA reacted violently to the assault almost immediately after the start of the operation. Through leaks in the ARVN command structure the enemy was aware of the attack before it began and had units ready to move into the area to support their troops already dug in. From the start, enemy opposition was intense. Troops were subjected to infantry and tank assaults while under rocket and artillery bombardment. Helicopters and support aircraft received intense anti-aircraft fire whenever they came within range of enemy positions. Losses began to mount in both men and material. By mid-February the drive had bogged down. Enemy pressure was especially heavy along the northern flank of the river where poor weather hampered air support. Cobra gunships tried to fill the void but enemy pressure continued. By the third week in February pressure was so great on the Ranger fire bases that ARVN commanders decided to extract them from these embattled bases. On the day planned for this the NVA launched a massive assault against one of the positions before the rangers could be evacuated. Despite violent resistance, NVA tanks were finally able to force the defenders to retreat. The other bases were evacuated before any major attack occurred.

By this point in LAMSON 719 the ARVN commander realized that his ground troops were not strong enough to keep open Highway 9 as a resupply route and at the same time continue the attack toward the Laotian town of



**During the invasion of Cambodia Skycranes performed herculean cargo tasks as they flew in much needed equipment and supplies while removing captured material. This CH-54 lifts a bulldozer into an enemy base camp for use in demolishing enemy facilities. (US Army)**

**(Below) One problem which proved a serious hindrance in I Corps was the weather. This Chinook lifts supplies into a hilltop position of the Americal Division. In the background fog can be seen slowly rolling in on the bunkers. (US Army)**





Tchepone, a key NVA supply point and major goal of the operation. It was decided to stage a major airmobile assault against the town, in hopes of breaking the stalemate. Starting on 3 March elements of the 1st Infantry Division made airmobile assaults along the escarpment which paralleled the southern side of Highway 9. Successful landings were carried out at LZ Lolo and Liz, and a fire support base was set up at Sophia West. Then on 6 March, after a concentrated bombardment, two ARVN battalions were airlifted into LZ Hope north east of Tchepone. Once these forces were in place all the ARVN elements moved on the town and captured it against light resistance.

However, even this did not break the stalemate. After reviewing the situation the ARVN commander decided to pull his forces out before bad weather further complicated matters. While the helicopters were able to extract the far flung infantry units the armored elements ran into serious problems. Enemy resistance stiffened, and the column became fragmented. Helicopters tried to bring in reinforcements and supplies but ran into intense ground fire. Cobras prowled the skies looking for enemy tanks but were unable to effectively attack them because they had no armament capable of destroying them except under the most ideal circumstances. This problem had first come to light when the NVA used tanks against the Ranger fire bases north of Aloui. Tactical airstrikes had destroyed some NVA armor, but in the dense mist shrouded jungle airpower was restricted. Gunships were the ideal weapon for

this job under the limited visibility conditions but the lack of effective weapons against armor seriously hindered the Cobras.

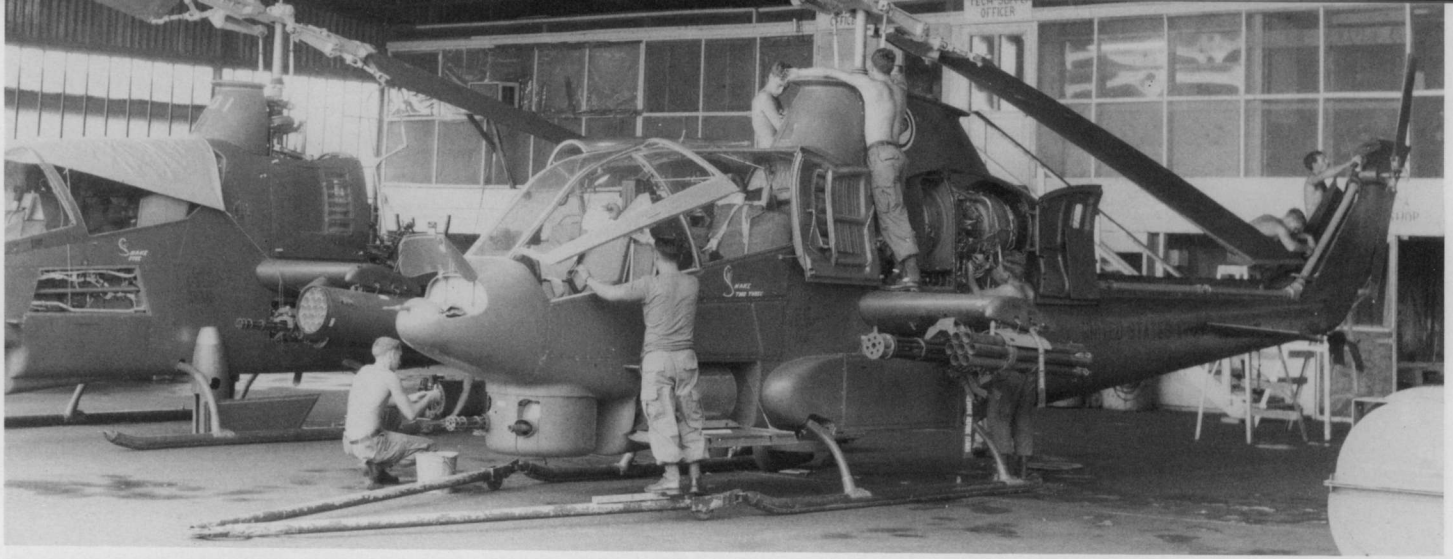
Despite severe enemy resistance the bulk of ARVN forces were able to withdraw to Vietnam by the third week in March. A number of airmobile raids in battalion strength were carried out by South Vietnamese units during the next month, but for all intents and purpose LAMSON 719 was over by March 25th. The operation had been the costliest airmobile assault of the entire war. Over one hundred helicopters had been lost but in comparison to the total number of sorties flown the loss rate was only .0025. Considering that these losses occurred in areas of high concentration of heavy anti-aircraft guns, it showed that helicopters could perform their missions even under such conditions. In particular over half the losses occurred in 'hot' landing zones where helicopters were the most vulnerable. The operation highlighted the inadequacies of the older Huey gunship in comparison to the new Cobra. Many more of them were lost than the newer Cobras to the intense ground fire. The Cobras proved far more rugged and often times returned to their base with damage that would have downed the older Huey. While the overall success of LAMSON 719 on the ground was questionable, the performance of the helicopters and their crews was excellent. These men and machines did their job to the fullest and again proved the concept of airmobility.



While artwork frequently appeared on the sides or noses of Hueys, CH-47's were usually devoid of such markings. This Chinook from the 178th MHC not only carries the unit's dice markings on the tail but the name 'WILD THING', and a 'lovely' lady behind the cockpit. (US Army)

The conversion of the 101st Airborne to an Airmobile Division occurred without a great deal of difficulty, considering that it was done in the war zone. These CH-54s belonging to the unit's 478th Aviation Company (Heavy Helicopters) sit in protective revetments near Da Nang in I Corps. Note the 101st patch on their tail booms. (US Army)





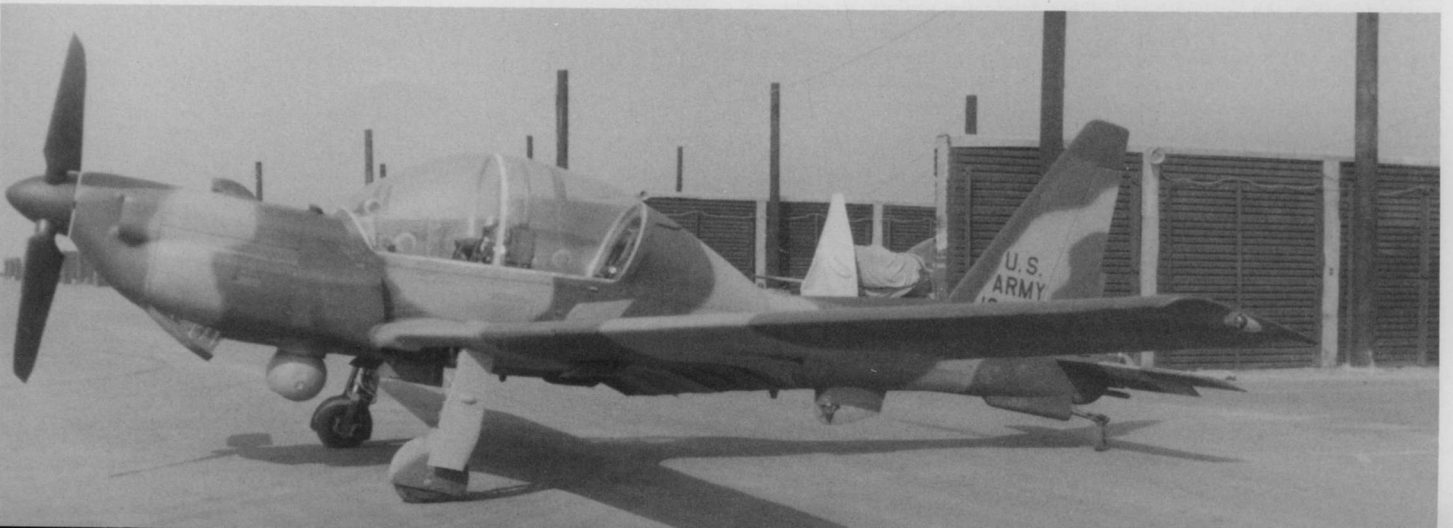
(Above) Transition training for Cobra pilots took place at Vung Tau, south of Saigon, under the USARV Cobra Transition School. These mechanics are working on two Cobras prior to a training flight. The closest ship has a 20mm gatling under the wing stubs while the one in the back mounts a mini-gun. (US Army)



(Left) This unusual looking Huey is fitted with INFANT remote and direct view image intensifier surveillance system. This ship worked out of Phu Loi with the 11th Aviation Group. (US Army)



(Left) A ground crewman directs a Cobra out of a bunker area for a checkout flight. The school's insignia, a coiled Cobra can be seen on the rotor housing. (US Army)



(Below) One of the army's weirdest looking aircraft was this YO3A reconnaissance plane. Fitted with a super quiet muffler system the craft made hardly a sound as it flew overhead, unlike the racket a helicopter raised. It was hoped that such a plane would help catch more enemy troops in the open after which gunships, hovering just out of hearing, were called in. And while the plane was successful it was never deployed in large numbers. (US Army)





## The Final Round

Lam Son 719 was the last major airmobile assault carried out by US forces during the war. With the policy of 'Vietnamization' in full swing the numbers of American troops in-country steadily declined, particularly combat troops. By the spring of 1971 the bulk of the 1st Cavalry Division had redeployed stateside, along with many ground units. It was followed closely by the 101st Airborne Division which was almost totally withdrawn by early 1972. Thus, in the spring of 1972 the bulk of US troops in Vietnam were either advisors or support personnel, though there were still some helicopter and cavalry units in-country to aid Vietnamese forces.

It was at this moment that the North Vietnamese chose to launch their infamous 'Easter Invasion' at three widely separated points. The northern most thrust came out of Laos and from North Vietnam toward Quang Tri, Hue, and Da Nang. A second drive struck from Laos at Ben Het, Dak To, Kontum, and Pleiku in the Central Highlands. The final attack came out of Cambodia toward Loc Ninh, An Loc, and Saigon. All three of these actions were conventional ground assaults, backed by masses of artillery, and led by large tank formations. This was the first major use of armor by the NVA in Vietnam aside from some minor actions with PT-76s against isolated camps. The communists used both PT-76s and T-54s in Laos during Lam Son 719 but these had not ventured into Vietnam in pursuit of retreating ARVN forces. For ARVN troops, these tank attacks came as a shock and many of the soldiers fled in panic before the onslaught.

The US response was both immediate and substantial. Though no ground troops were committed, all available American airpower was unleashed and additional reinforcements were sent. The few remaining US Army helicopter units still in-country helped move ARVN reinforcements to the threatened areas, observed enemy movements, and provided gunship support whenever possible. In particular, armed with a new weapon the helicopter proved valuable in knocking out enemy armor as the low weather ceiling often restricted aircraft sorties. Just prior to the attack three UH-1B's equipped with tube-launched, optical-tracked, wire-guided (TOW) anti-tank missiles had been sent to Vietnam for testing. These were initially used in the Kontum area where the pilots claimed twenty-six tank kills during the first two months of the campaign. Ten of these kills came on 26 May when the NVA launched a major drive on the city which was all but defenseless against the enemy armor. These losses so disrupted the NVA attack that it was beaten back by the demoralized ARVN troops. This victory helped raise the defender's spirits and they continued to cling to their defense if only by a fingerhold, with the knowledge they would be supported by the TOW Hueys and American aircraft.

By the end of June the communist assault had been stopped and ARVN troops went on the offensive to regain lost territory, especially in I Corps where the NVA had captured Quang Tri. Aided by US helicopters which flew in supplies and troops, the South Vietnamese battled valiantly to regain the city. With Cobras in support, they managed to force their way into the city where bitter house-to-house fighting took place. Finally, the communists gave in and retreated, leaving the rubble to ARVN.

However, the losses suffered by both sides were so heavy that the fighting drastically fell off as both sides licked their wounds. In the meantime the peace talks in Paris began making some progress but in December when the North Vietnamese became intransigent President Nixon launched an all out

Members of the 7th Cavalry, 1st Cavalry Division, prepare to board a UH-1H for a reconnaissance mission near the Cambodian border just prior to withdrawal of the division's remaining brigade in Vietnam. (US Army)

aerial offensive against Hanoi and Haiphong. This soon brought them back to the talks and a peace treaty was finally signed in January of 1973. Under this agreement all US military personnel were withdrawn which effectively left the South Vietnamese on their own.

The South had some helicopter assets, but far too few to carry on the type of airmobile operations that US forces had carried out. In addition, NVA troops began to employ substantial numbers of SA-7, shoulder launched missiles, first used in Laos and later during the 1972 Easter Invasion, which proved very effective against low flying helicopters, along with conventional anti-aircraft weapons. This severely restricted where and when helicopters could be used. ARVN commanders lost a great deal of mobility and as such became tied down to somewhat static positions.

By 1975 the communists were ready to launch their final assault against the south. In March, the NVA captured the town of Ban Me Thuot in the Central Highlands. President Thieu ordered a total withdrawal from the area which turned into a rout. The NVA then launched a major drive in I Corps which captured Quang Tri, Hue, and Da Nang in the course of a few days. Unable to use helicopters to shift forces because of limited numbers and enemy

UH-1C gunships from the 240th AHC, the 'Mad Dogs' gun platoon, sits on the runway at the Bear Cat refueling pad, southeast of Saigon. Such lavish nose art was not that common in most units but the 240th had a large number of its ships marked this way. (US Army)





ground fire, the ARVN commanders panicked. This spread to their troops who broke under enemy attack. Lacking sophisticated aircraft to counter enemy surface-to-air missiles, and without Cobra gunships, the South Vietnamese could not stem the massive NVA tank attack which rolled down the coast unhindered by panic stricken ARVN troops. Finally, outside Saigon at Xuan Loc, ARVN stood and fought. Helicopters brought in reinforcements but to no avail. After a spirited defense the town fell and with it the last hopes of the Saigon government.

During the final hours of defeat US helicopters once again returned to the embattled country. Marine, Navy and CIA helicopters began evacuating US and Vietnamese personnel to ships off the coast.

US television focused on helicopters picking up people from the top of the American embassy while below a huge mob of Vietnamese tried to get to the landing pad. Finally, after days of agony, the last Huey lifted off the few remaining Marine guards still left. As this last Huey faded in the distance the people below knew that there would be no more. The US was departing Vietnam. During this final helicopter operation two Marines died when their CH-53 crashed into the sea, the last American casualties of the war. In the closing act of this tragic war, the helicopter, which had come to symbolize the whole conflict to the American people, played out the last act of US involvement in Vietnam.

As 'Vietnamization' took over more and more helicopter assets were turned over to the Vietnamese as American troops went home. This UH-1H is equipped with a mini-gun, of which the Vietnamese door gunners were especially fond. Notice how all the doors have been removed for a quick exit if the ship is downed. (USAF)

This gunship, a UH-1C, is from the 174th AHC. The 174th was the original unit to use the sharkmouth on helicopters in Vietnam. This particular ship is being readied at the old Marine base at Khe Sanh for a mission in support of ARVN forces in Laos during Lam Son 719. During this operation the older Huey gunships suffered far more losses than did the newer Cobras. At least one of the 174th's ships was put on display in Hanoi for propaganda purposes after being recovered from the battlefield by the NVA. (US Army)





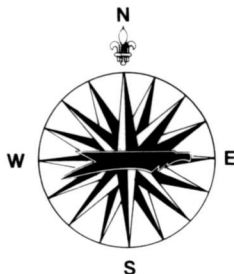


During the early spring of 1972 the NVA launched a massive invasion of South Vietnam led by T-54 tanks. Fortunately, the Army had just shipped Hueys equipped with TOW anti-tank missiles for evaluation under combat conditions. These were immediately rushed into action in the Central Highlands at Kontum where they proved instrumental in beating off a number of attacks spearheaded by T-54s. This particular machine carries a wavy Gloss Black pattern over its standard paint job. (US Army)

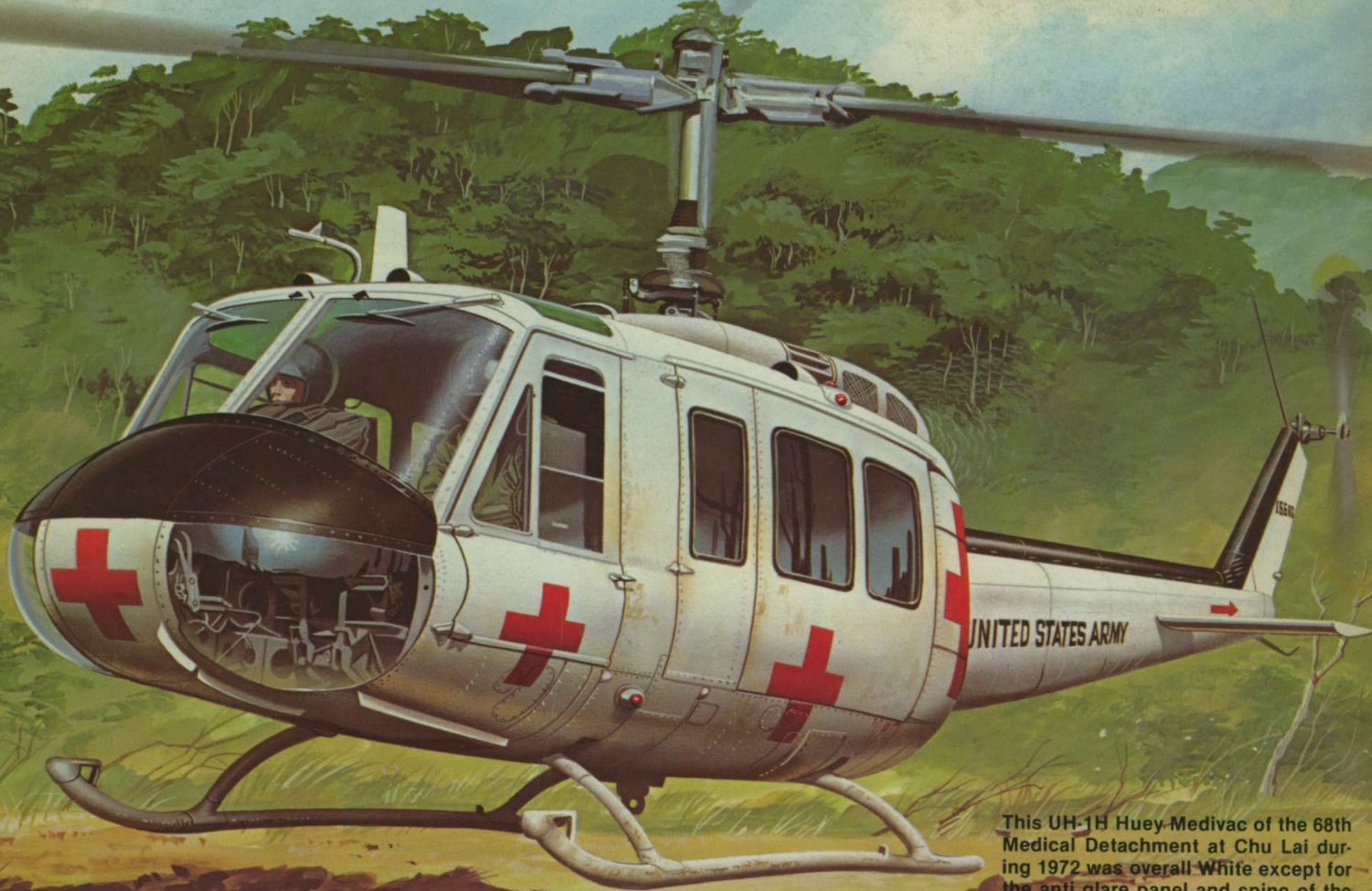
As the war in Vietnam finally came to an end the Vietnamese made one last stand at Xuan Loc. Reinforcements were rushed in by helicopter but to no avail, they were chopped to pieces by the NVA. With the fall of this position all hope was lost and within a few days Saigon fell to the victorious North Vietnamese. (USAF)



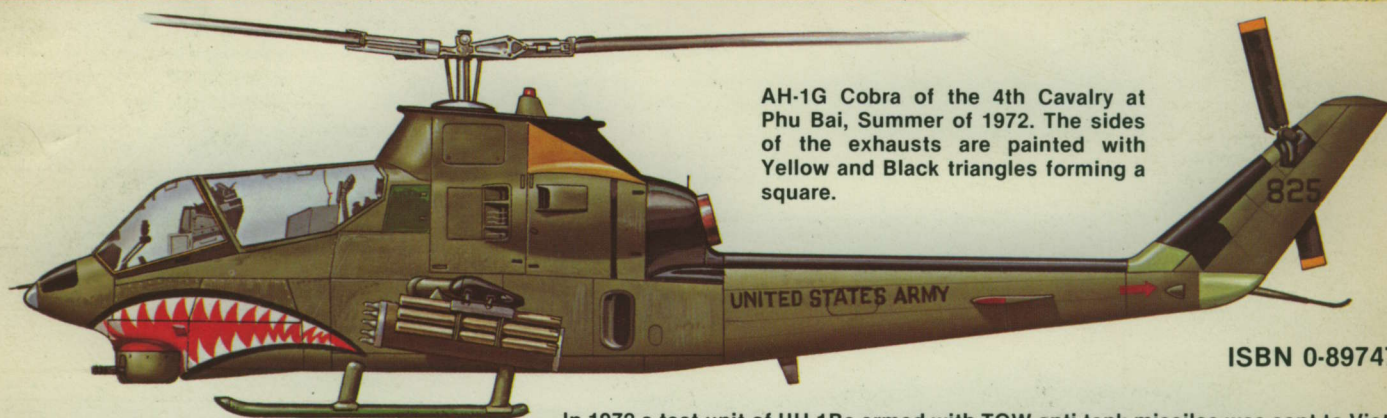
# VIETNAM







This UH-1H Huey-Medivac of the 68th Medical Detachment at Chu Lai during 1972 was overall White except for the anti glare panel and spine of the rear rotary boom which are in Flat Black.



AH-1G Cobra of the 4th Cavalry at Phu Bai, Summer of 1972. The sides of the exhausts are painted with Yellow and Black triangles forming a square.

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A medivac Huey comes in for a landing in the Central Highlands. Although prominently marked with Red crosses these helicopters usually drew enemy fire despite the easily seen markings. (BELL)

In 1972 a test unit of UH-1Bs armed with TOW anti-tank missiles was sent to Vietnam for evaluation. Arriving just before the NVA Easter Invasion they proved their worth by destroying large numbers of NVA armor. These particular Hueys carried a one of a kind camouflage scheme applied during the fighting, and based on no pattern then in use by the Army. (BELL)

